TouchTunes

VIRTUO II

Installation and Setup Guide

Disclaimer

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TOUCHTUNES INSTALLATION AND SETUP GUIDE FOR TOUCHTUNES Virtuo II™ JUKEBOXES

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USA

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TouchTunes

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1 Welcome

This section introduces Virtuo II, provides important safety information, and describes how to get customer support.

Topics

Welcome
About This Guide
Disclaimer and Important Safety Information
Contacting TouchTunes

Welcome

Congratulations on your receipt of Virtuo II. Virtuo II's design concept and appearance are designed to impress as well as attract users.

About This Guide

This Guide is intended for Operators of TouchTunes digital jukeboxes and their technicians, and TouchTunes technical support and field service personnel. It provides important information about the installation, setup, and operation of Virtuo II.

This manual refers to the following models:

- Virtuo II 700778-002 (US model)
- Virtuo II 700779-001 (Canadian model)

Disclaimer and Important Safety Information

TouchTunes Interactive Networks is not responsible for any damage resulting from the improper installation or connection of test kit components or any other external equipment to your kit. Nor is TouchTunes responsible for any damage caused during shipment (except the shipment to the original purchaser) or any damage caused by:

- impacts, fluids, fire, flood, wind, earthquake, lightning or similar disaster
- unauthorized modifications, attachments or peripherals, improper use, environment, installation or electrical supply
- improper maintenance
- any other misuse, abuse, or mishandling

IMPORTANT SAFETY INSTRUCTIONS

Familiarize yourself with this important safety information before proceeding with product installation.

- READ THESE INSTRUCTIONS.
- KEEP THESE INSTRUCTIONS.
- HEED ALL WARNINGS.
- FOLLOW ALL INSTRUCTIONS.

The Lightning Flash with arrow head symbol within an equilateral triangle is intended to alert the user to the presence of un-insulated "dangerous voltage" within the product enclosure that may be of sufficient magnitude to constitute a risk of shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

WARNING: Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE AND OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHOULD NOT BE PLACED ON THIS APPARATUS

DO NOT USE THIS APPARATUS NEAR WATER.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, THIS APPARATUS SHALL BE CONNECTED TO A MAINS SOCKET OUTLET WITH A PROTECTIVE EARTHING CONNECTION.

WARNING: The speaker output of this unit can exceed 10 Watts and could cause a shock injury. Connection to speakers should be performed by a skilled person in compliance with local building codes. Class 2 wiring is required for speaker cables. Use of external speakers outside the ratings stated at the speaker jack may result in a shock injury or damage to the unit, or equivalent.

CAUTION: Do not use Virtuo II immediately after transferring the unit from a cold place to a warm place as condensation may have occurred on internal components. Wait for the unit to reach room temperature before using it.

IMPORTANT: See product enclosure for safety-related markings.

TO COMPLETELY DISCONNECT THIS APPARATUS FROM THE AC MAINS, DISCONNECT THE POWER SUPPLY CORD PLUG FROM THE AC RECEPTACLE

THE MAINS PLUG OF THE POWER SUPPLY CORD OR APPLIANCE COUPLER SHALL REMAIN READILY ACCESSIBLE

No serviceable parts inside, please contact TouchTunes Customer Support for service.

Clean only with dry cloth.

Do not block any ventilation openings. Install in accordance with the manufacturers instructions.

Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

Only use attachments/accessories specified by the manufacturer.

Unplug this apparatus during lightning storms or when unused for long periods of time.

Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Warning: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

To disconnect this apparatus unplug from the mains plug, access to the mains plug should be readily accessible after the installation.

Contacting TouchTunes

If you need help with or have questions about this Guide, contact TouchTunes by:

- using the email links on the Contacts page on the TouchTunes Dashboard at https://operator.touchtunes.com.
- calling the TouchTunes 24/7 Service Hotline at 847-353-1954.

To help us assist you more effectively with problem reports, the following information may be required when contacting TouchTunes Support:

- Jukebox model and ID.
- The serial number of any component you believe to be problematic.
- The date/time of the problem.
- Actions performed immediately before the problem occurred.

2 Introducing Virtuo II

This section introduces the exterior, interior and software features of the Virtuo II jukebox.

Topics

Introducing Virtuo II

Virtuo II Features Overview

Exterior Features Overview

- Visual Components

Interior Features Overview

- Virtuo II Computer Panel Connections
- I/O Board
- Amplifier
- Key Specifications
- Key Features

Remote Control

Payment Means

Cable Routing and Intuitive Color Coding

- Cable Management Hardware

User Interface - Play More!

- Touch Screen Monitor
- Home Page
- Favorites
- Content Sorting
- Artist Top Hits
- Help
- Search Engine
- Visible Play Queue
- Two Screen Display
- Live Equalizer
- Custom Music Programming (CMP)
- Expanded Language Support
- HD Attract Video Loops
- Mobile Banners
- Improved Sound using Bass Boost
- About TouchTunes Screen

Introducing Virtuo II

TouchTunes introduces a revolutionary next-generation entertainment platform, with features designed to enhance the customer experience and attract users.

The **TouchTunes Virtuo II**, more than just a jukebox.

Virtuo II is a multimedia entertainment platform that enhances patrons' entertainment experience

Virtuo II Features Overview

Display

High definition 27-inch wide screen with 16x9 aspect ratio provides more area to present rich content and enhance the music search and selection experience for the consumer.

High Intensity LED Array

Separate from the user interface, the LED Array above the screen allows information to be displayed to an extended audience, even when the unit is paused.

Onboard Camera

A high definition still and video camera enables patrons to interact with mobile and web communities live from the location.

Light Show

Multi-zone, 16-million color, high intensity light show offers high visibility in low light settings, and clearly identifies Virtuo II as an interactive device.

Crisp Internal Design

Virtuo II's internal design provides a clean and safe layout for maintenance, featuring:

- color-coded components and cabling
- clear labeling
- tangle-free cabling
- serviceable parts

Amplification

A dual amplifier with integrated power supply provides world class audio for two independently controllable zones. A third independently controllable zone can be used with external amplification.

Fan-less Design

Virtuo II's cooling system is an industrial design using passive cooling that greatly reduces noise and makes it a "green" out-of-home entertainment platform.

More Powerful CPU

Virtuo II's 64-bit CPU provides great performance and superior graphics.

High Capacity Storage

With a high-resilience 500-gigabyte hard drive, Virtuo II allows for the local storage of music and multimedia content, with fewer downloads and lowered response time when playing a song.

Bezel-less Front Panel

A modern and sleek industrial design conveying a single glass panel represents a distinctive and classy upgrade to existing products, increasing the potential to reach upscale locations.

Compatibility with Ovation and Virtuo Mounting Bracket

Virtuo II can be mounted on the same wall bracket used by Ovation and Virtuo jukeboxes, allowing for a rapid swap and upgrade process.

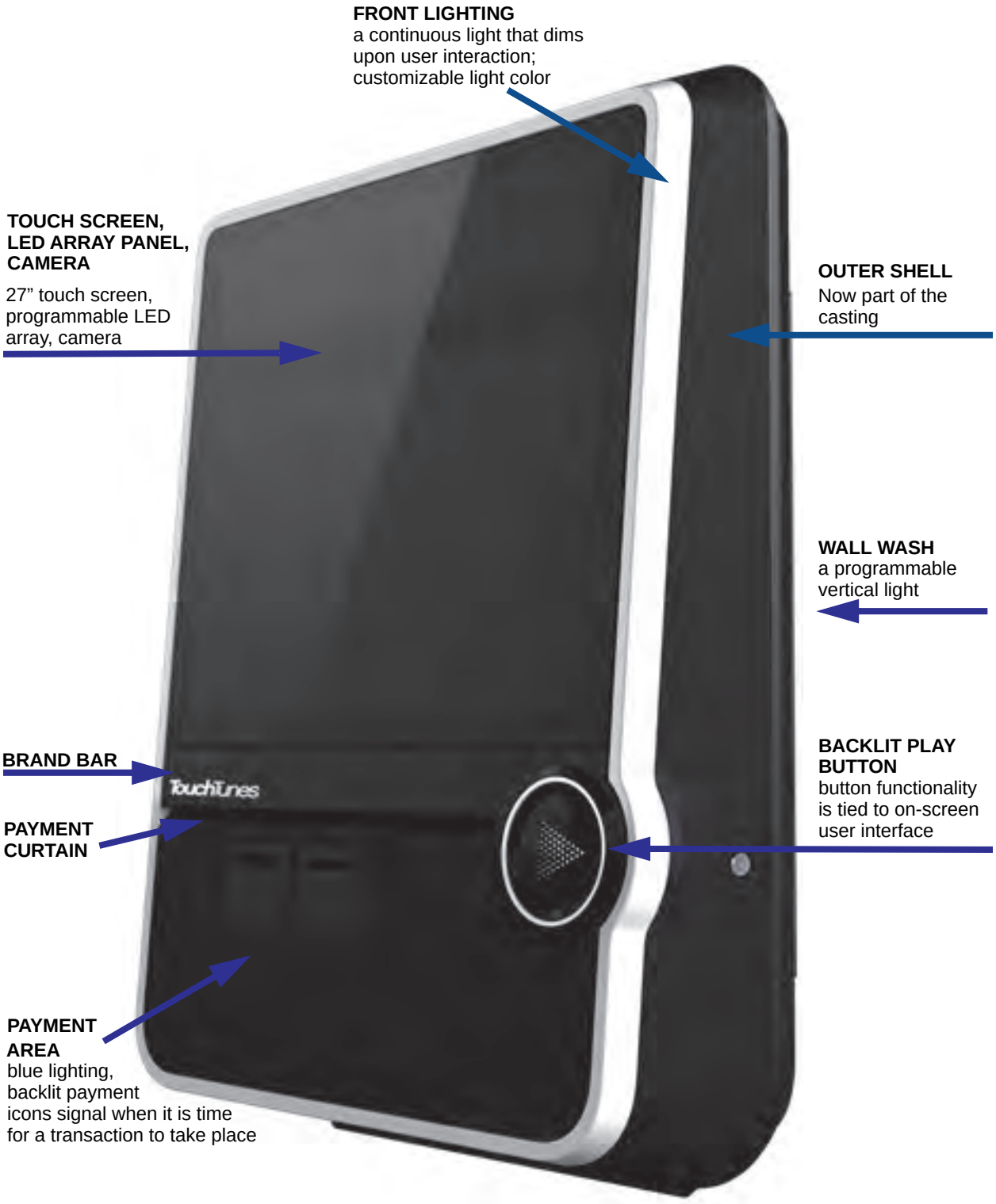
TouchTunes Wireless Broadband

TouchTunes wireless broadband enables operators to connect their jukeboxes to the Internet with a wireless high speed connection. This gives you:

- real-time customer access to the entire TouchTunes catalog
- access to custom playlists created by venue staff
- faster data transfers and communications with the Operator Dashboard, including music downloads, settings modifications and Network Diagnostic System (NDS)
- improved song recommendation quality
- expanded advertisement capabilities
- support for the TouchTunes mobile app, which allows users to play songs from their mobile devices, without needing to walk up to the jukebox

Exterior Features Overview

Virtuo II's visual features make the statement that this is **more than a jukebox**, with attractive visual components that invite and attract patrons to come and Play More!



Visual Components

- RIM lights: 16-million color light show
- Reflective wall wash: 6 dimmable zones provide a colorful aura
- LED array: 16-million color LED display area for displaying additional graphics
- Brand bar backlight: single-color LED light strip illuminating the TouchTunes logo
- Payment curtain: gradient lighting strip for illumination of the payment mechanisms
- Touch screen monitor: a large (27-inch), 720p monitor for displaying and selecting titles
- Play button backlight: outer lighting ring illuminates a familiar “push to play” button
- Camera: allows for patron interaction with others live from the venue

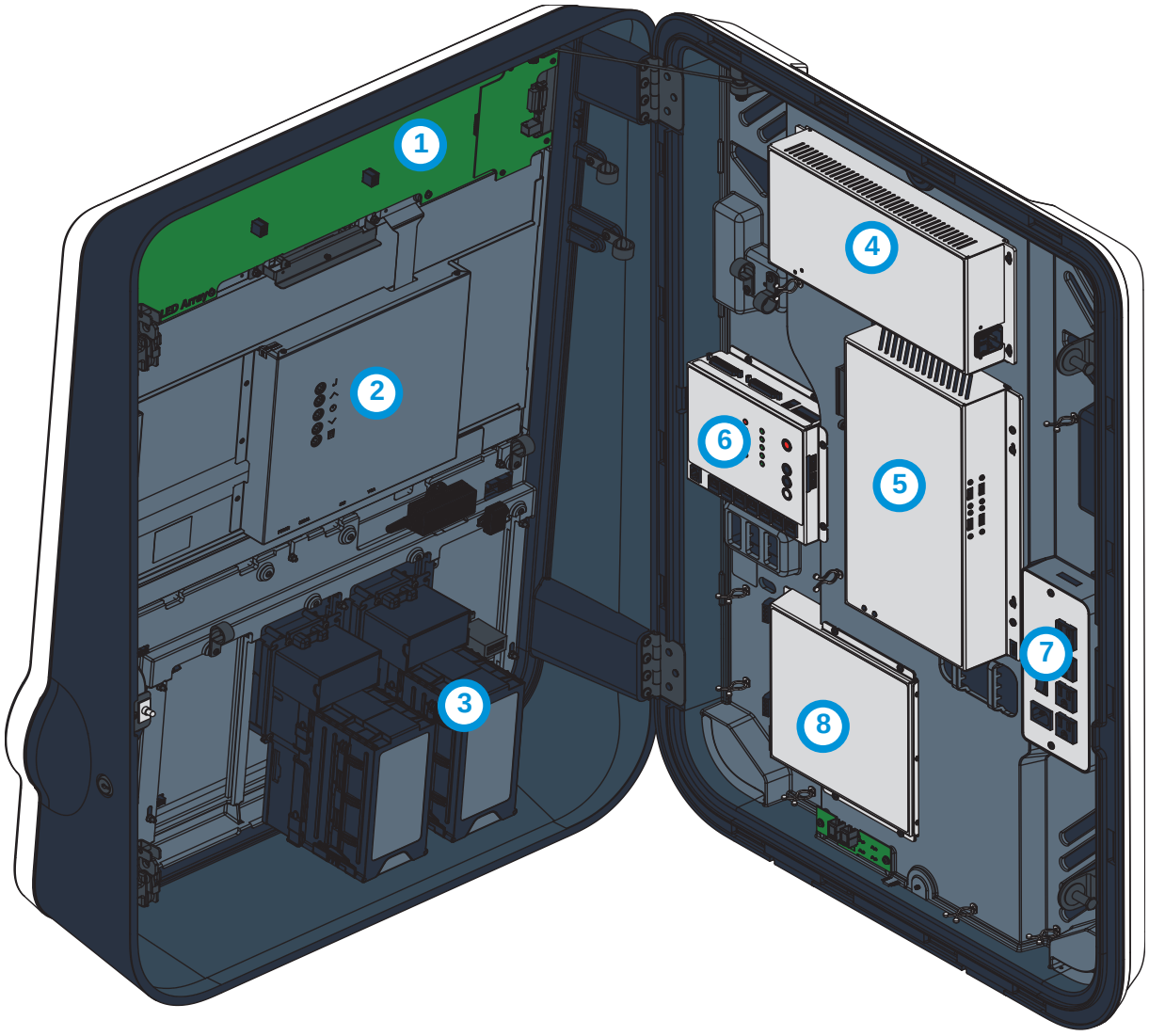
Virtuo II’s chassis is a cast aluminum cabinet.

Edge lighting for payment means illuminates the acceptors to show where payment is made.

A dedicated **Play** button with the symbol commonly used for consumer audio/video electronics provides patrons a familiar means of playing their songs, as well as giving them tactile feedback.

Interior Features Overview

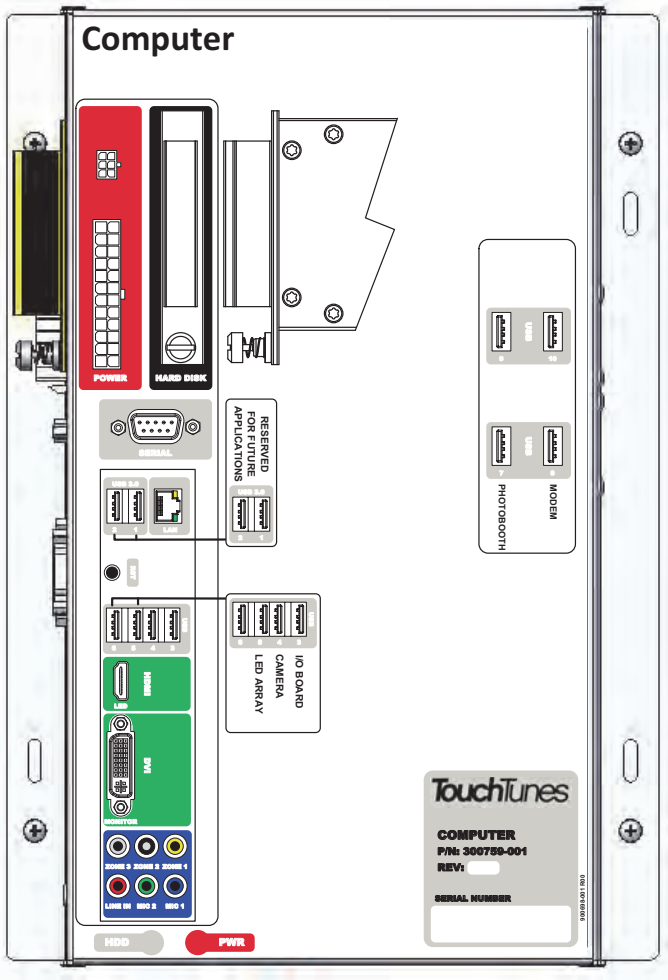
This figure illustrates the locations of Virtuo II's major internal components.



Interior view: door and cabinet

1. LED panel
2. Touch screen
3. Payment acceptors
4. Power supply unit
5. Computer
6. I/O board
7. Power strip
8. Amplifier

Computer

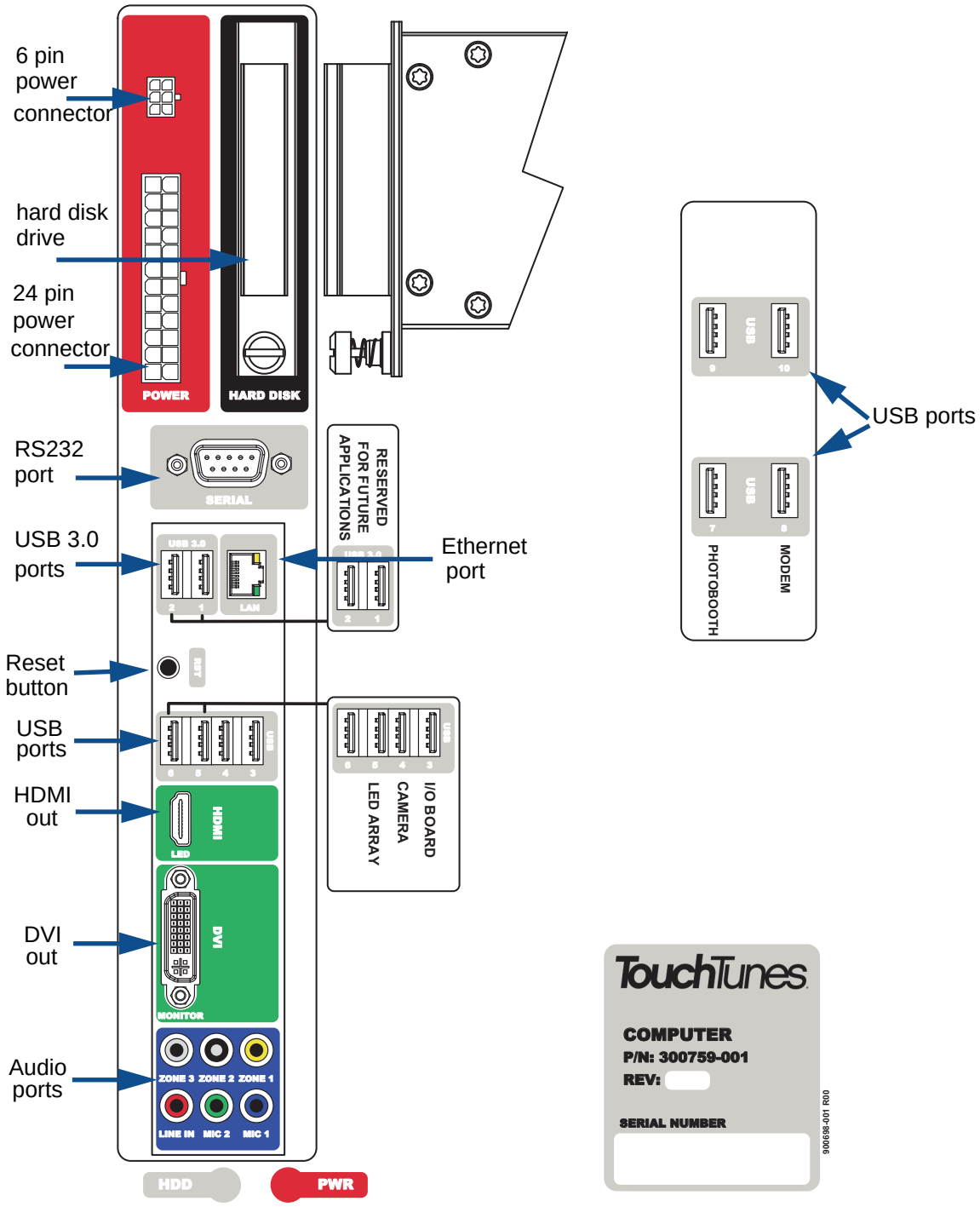


The central computer in the Virtuo II jukebox is a specially designed computer mounted inside Virtuo II that runs the unit. The computer contains a hard drive and USB connectors for attaching peripherals.

To conserve space, the computer has connectors on its left and right panels. Two LEDs on the top panel provide indications of power status and hard drive activity.

See Virtuo II Computer Panel Connections to identify the components and connections on the computer for your Virtuo II jukebox.

Virtuo II Computer Panel Connections

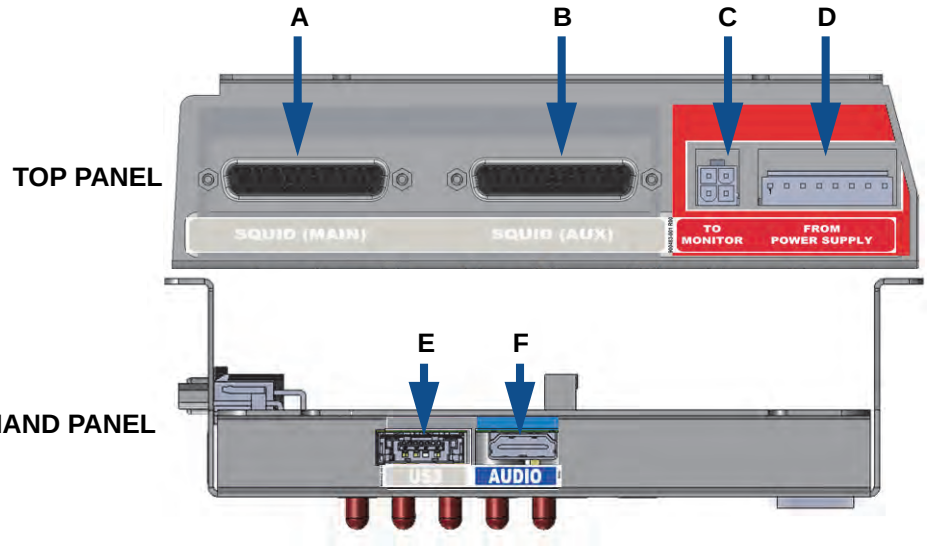


Status LEDs
Yellow = hard drive activity
Green = power

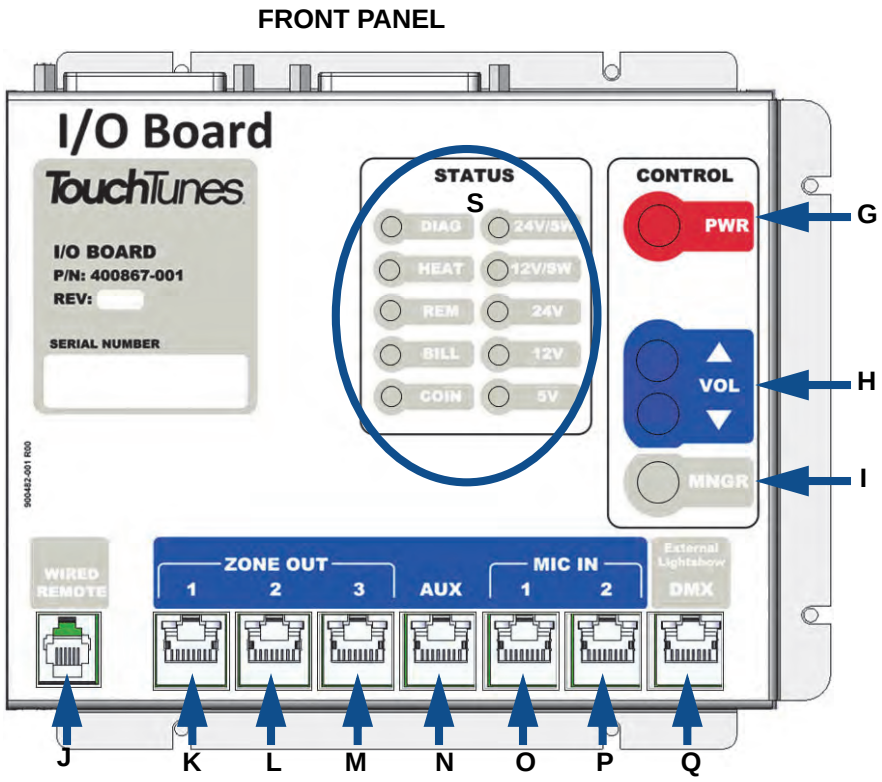
I/O Board

The I/O board is an interface between the computer and Virtuo II's other components, providing controls and status indicators. Refer to the following figure to identify all components and connections on the I/O board for the Virtuo II.

A Squid (main)
B Squid (auxiliary)
C Display DC power out
D DC power input
E USB port
F HDMI audio port

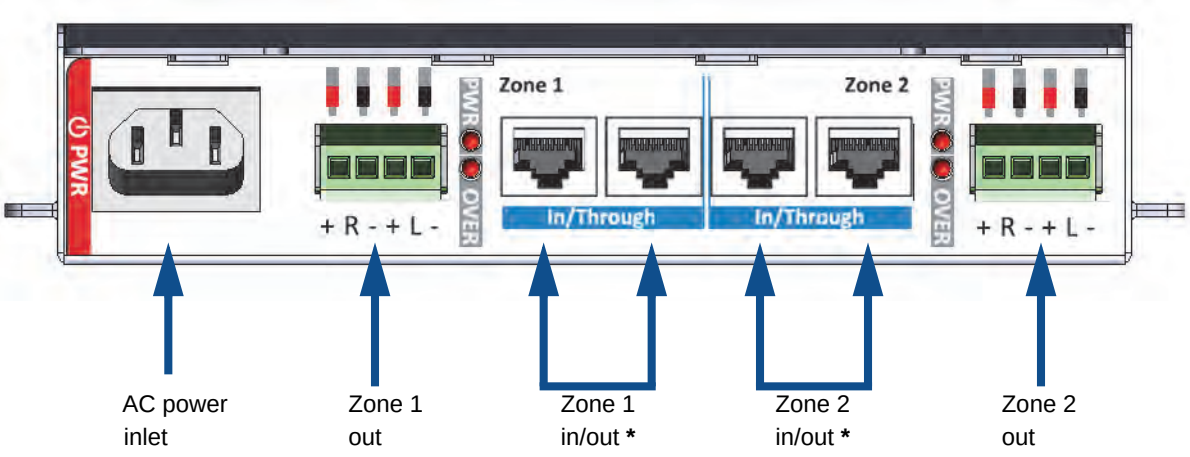


G Power button
H Volume up/down buttons
I Manager button
J Wired remote
K Zone 1 audio
L Zone 2 audio
M Zone 3 audio
N Aux input
O Mic 1 input
P Mic 2 input
Q DMX light show
R Status LEDS
S Diagnostics
- Over temperature
- Wired remote activity
- Bill acceptor activity
- Coin acceptor activity
- 24VDC switching power status
- 12VDC switching power status
- 24VDC power status



Amplifier

Virtuo II's DA950-V amplifier is a specially-designed dual amplifier with integrated power supply and support for two independently controllable audio zones.



* Each zone's ports are wired together to allow daisy-chaining to optional additional amplifiers.

Dual Amplifier Connector Panel

Key Specifications

- 2 x 450W @ 1% THD+N, 20Hz – 20kHz, 4Ω, BTL
- 4x 120W @ 1% THD+N, 20Hz – 20kHz, 4Ω, SE (both channels driven)
- 121dBA dynamic range (BTL-mode)
- 117dBA dynamic range (SE-mode)
- THD+N = 0.002% @ 1W (8Ω,1kHz, SE-mode)
- THD+N = 0.002% @ 1W (8Ω,1kHz, BTL-mode)
- 86,4% total efficiency @ 250W, 8Ω
- CCIF Intermodulation distortion = 0.0009%, 10W, 4Ω, 18.5kHz/1kHz
- ±25V unregulated auxiliary power supply
- selectable mains 85-132VAC & 170-264VAC

Key Features

- fully integrated audio power solution
- rugged construction
- thermal protection
- over current protection
- sound optimized soft clipping

Remote Control

Virtuo II's wireless remote control is a single-frequency remote that transmits a 433.92 MHz and has these features:

- wide range and reliability
- light weight and robust
- long battery life
- integrated flash memory ensures that remote does not lose its ID when batteries drain
- membrane and plastic framing with resistance to liquids

The remote control is RF-based. This eliminates the need to point it directly at the jukebox when using it. It has a range of up to 200 feet depending on the obstructions between it and the unit.

Virtuo II also supports a wired remote control, which is available as an option, for an additional cost.

Payment Means

The standard configuration for U.S. model Virtuo II is:

- two ICT bill acceptors (with 600-note stacker).

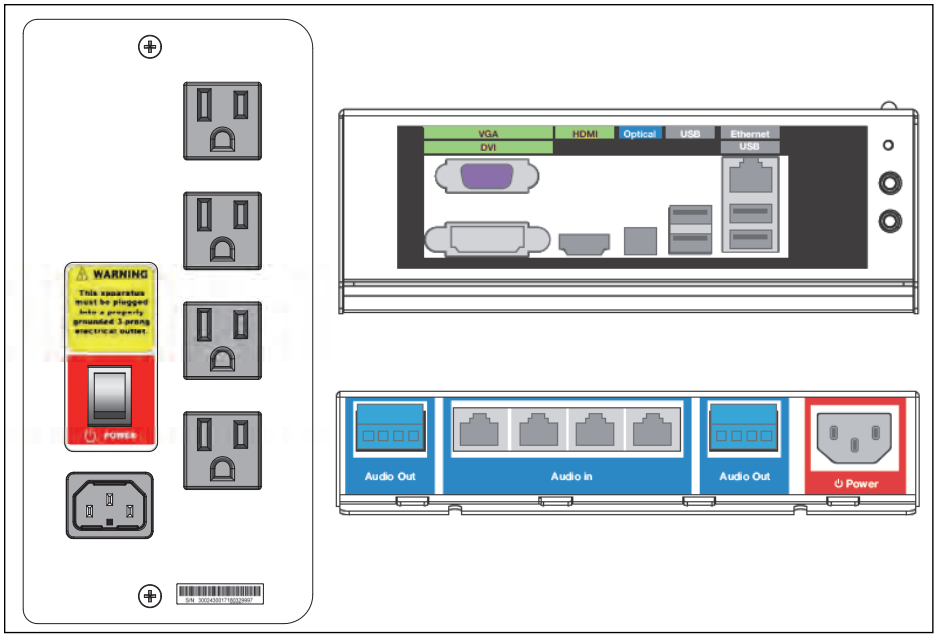
Payment acceptors

NOTE	Canadian Virtuo II units include one coin acceptor and one ICT bill acceptor (with 600-note stacker).

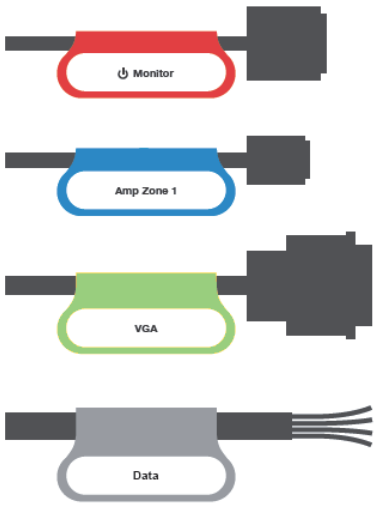
Cable Routing and Intuitive Color Coding

To eliminate needless cable tracing and the potential for connecting cables improperly, all Virtuo II's cables are labeled at both ends and are color-coded, as are all connection ports on the main components (computer, power supply unit, I/O board, and amplifier).

LEGEND



Port labeling



Cable labeling

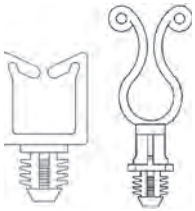
Color coding

Virtuo II's cable management features ensure that cables are properly supported and protected throughout their routing from point A to point B, and that tangles (or *cable spaghetti*) are eliminated, making maintenance of the installation easy and efficient.

Cable Management Hardware

Virtuo II uses this cable management hardware:

Plastic Conduit
This tubing is used to contain multiple cables where they cross over the door hinge. This helps prevent cable pinching and fatigue when the door is opened and closed.
The conduits are secured at both ends with a tool-free clip to keep the wires from becoming fatigued at the point of entry into the tubing.

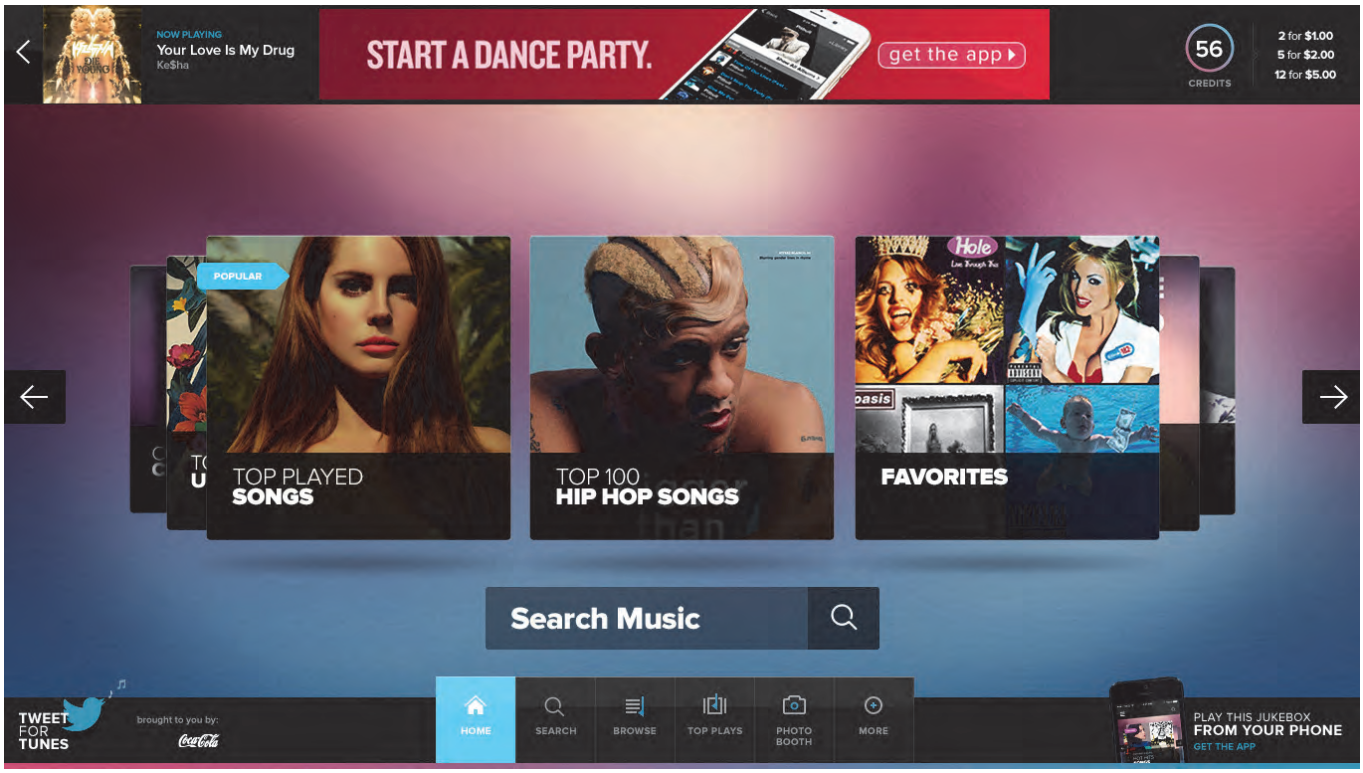


Cable clips
Cable saddles or twist locks are used in any area where cable clips are located. Both clip types provide easy cable routing during assembly and repair.

Hook and loop, one-wrap cable ties
These reusable hook and loop cable ties are easy to take on and off and require no tools.

User Interface - Play More!

Virtuo II's user interface has an inviting layout that presents patrons with an attractive, entertaining, and user-friendly experience that invites them to **Play More!**



Evolving from TouchTunes' state of the art Jukebox Software architecture, the *OpenStage 2* software platform comprises a user interface that includes these features:

- Touch Screen Monitor
- Home Page
- Favorites
- Content Sorting
- Artist Top Hits
- Help
- Search Engine
- Visible Play Queue
- Two Screen Display
- Live Equalizer
- Custom Music Programming (CMP)
- Expanded Language Support
- HD Attract Video Loops
- Mobile Banners
- Improved Sound using Bass Boost
- About TouchTunes Screen

Touch Screen Monitor

The touch screen is a 27-inch, high definition screen with a 16x9 landscape display.

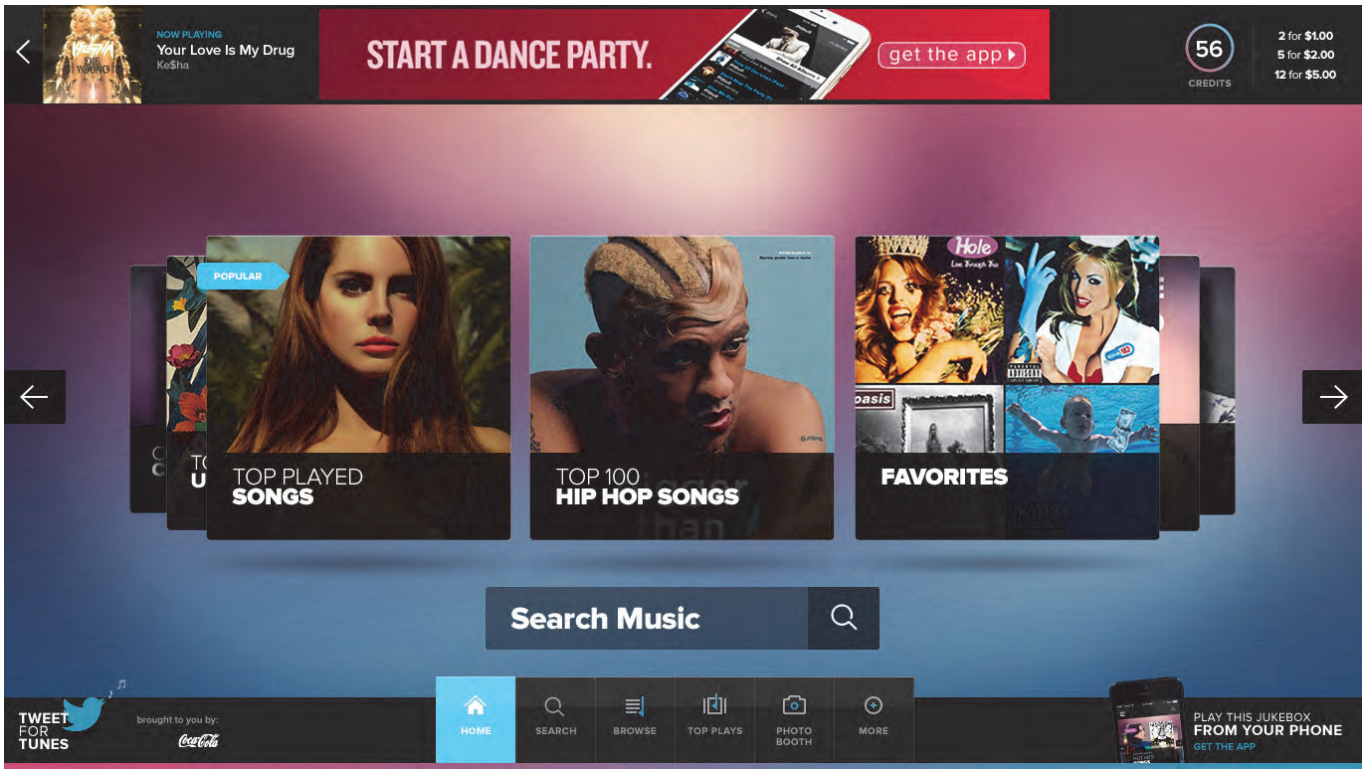
With a viewing space 60% larger than 19-inch screens, the landscape orientation is ideal for multiple users and increased social interaction, and lends itself to immediate recognition of content displayed on screen.

Ergonomically, the display provides an increased relaxed sight range that supports minimal eye/head movement to view content and minimal arm/hand movement to physically interact with content.

NOTE	For patrons' optimal viewing angle and relaxed sight range, ensure that you adhere to the installation guidelines for wall-mounting Virtuo II. See Moving Virtuo II to its Mounting Location.

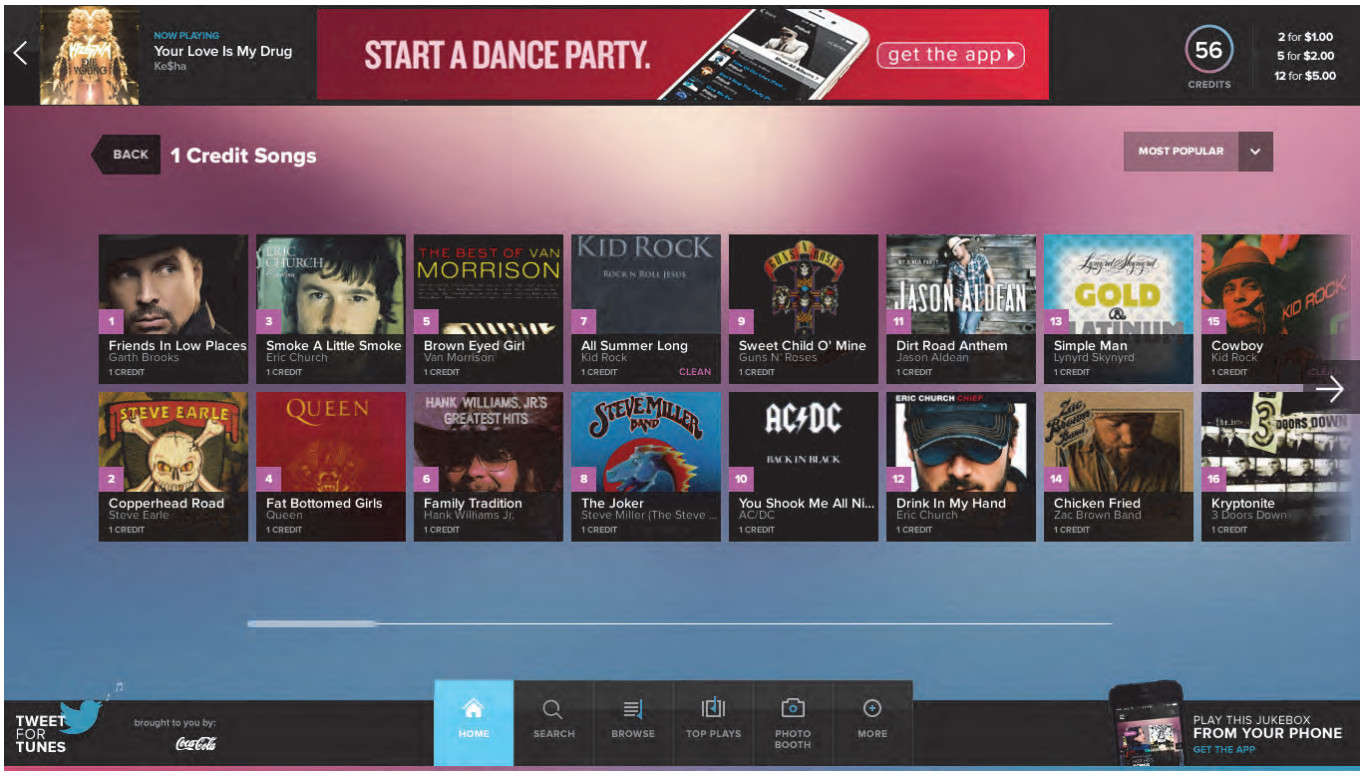
Home Page

OpenStage 2's home page is a first point of contact featuring music that patrons are likely to want to play, while also presenting many options to quickly access other features of the jukebox.



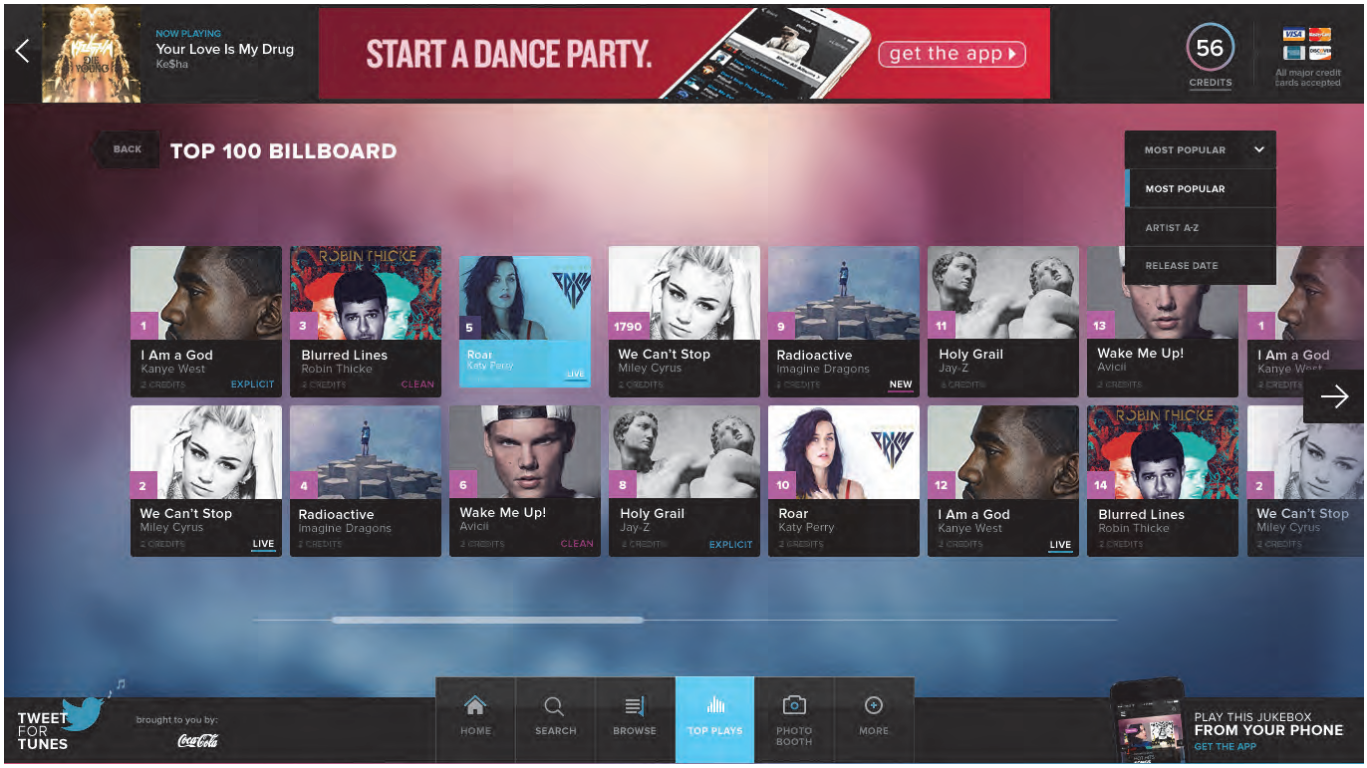
Favorites

Favorites is content defined by the venue. This increases the independence and ownership of the content for a location, and encourages customization and user involvement by local patrons. The default view and sort order of Favorites is by artists, listed alphabetically. For how to change the order and view, see Setting Local Favorites Options.



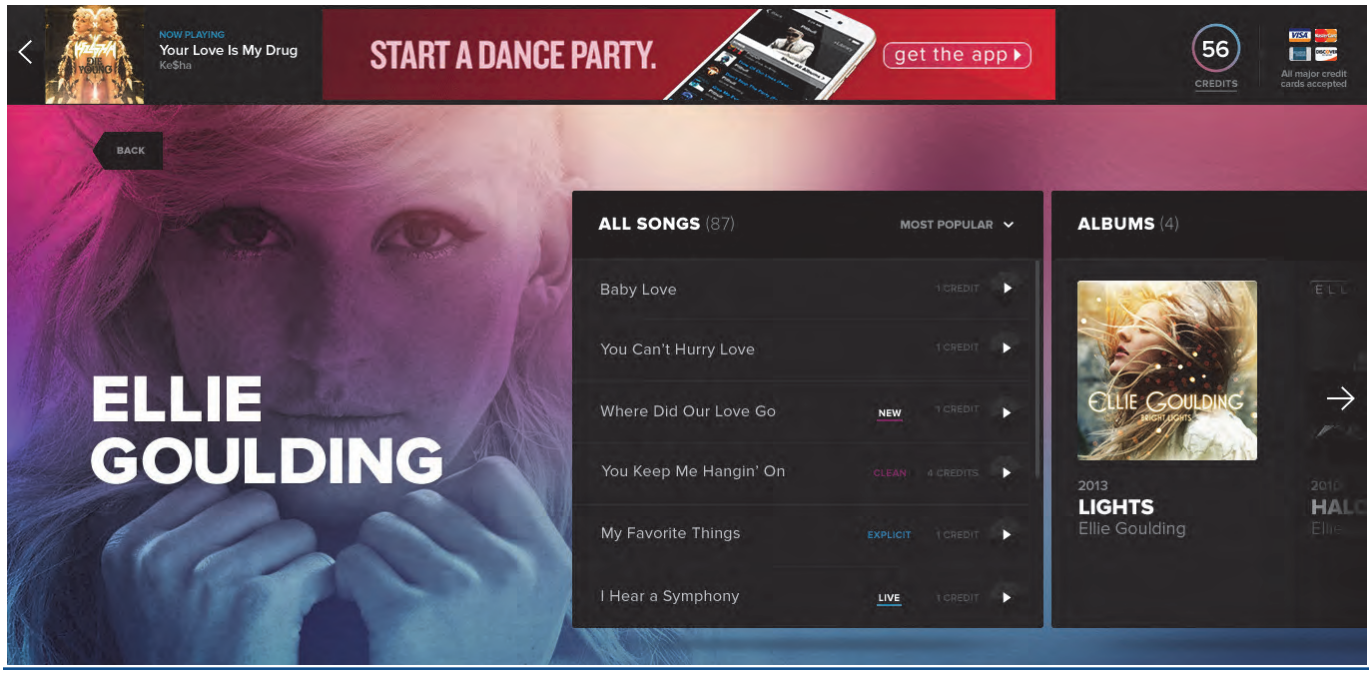
Content Sorting

Content sorting helps patrons browse content alphabetically, by popularity or by release date.



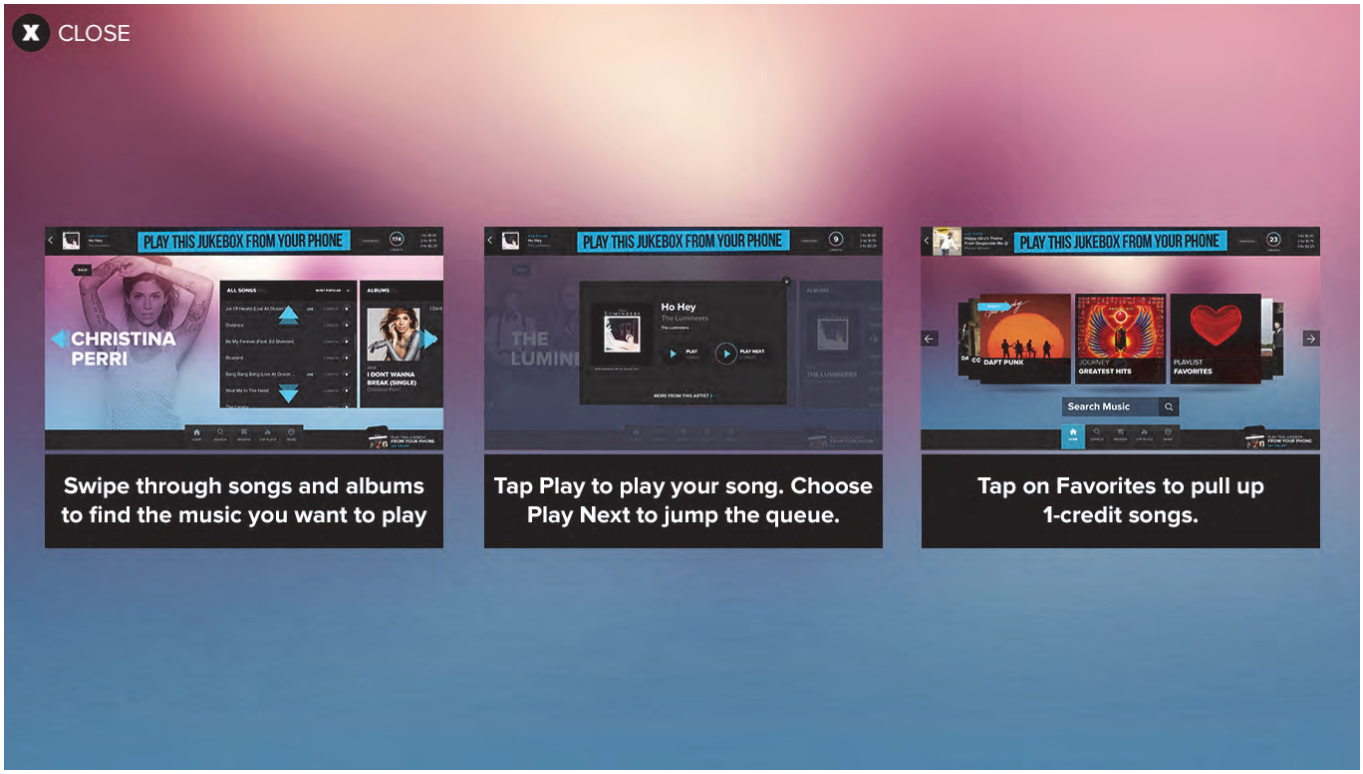
Artist Top Hits

Many users would rather pick a known hit from an artist, but they may not always know the title of the song. When viewing an artist page, all of that artist's songs are presented first, with the greatest hits at the top, and users can switch to other sorting orders.



Help

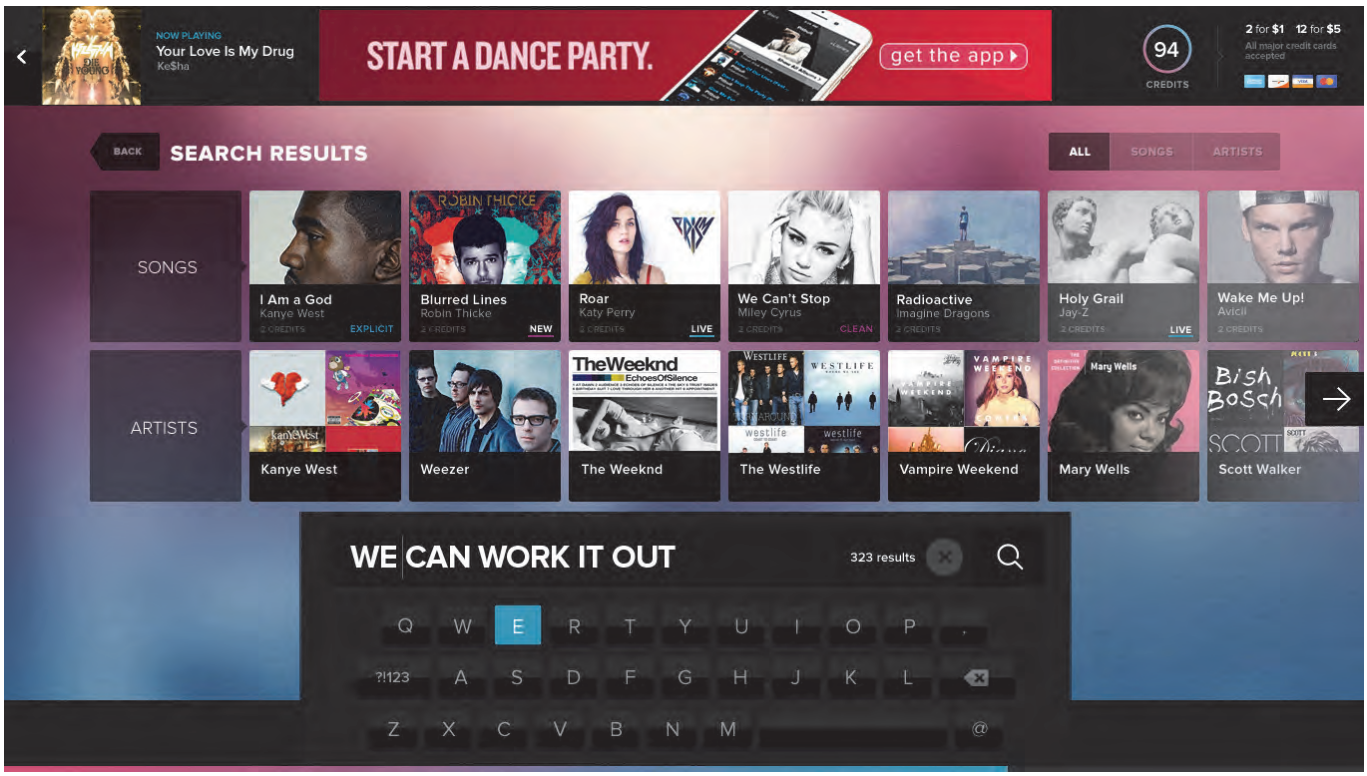
Customers can get help to navigate the OpenStage 2 interface. When customers select Help from the “More” menu, navigation hints are provided to help them quickly adapt to this interface.



Search Engine

OpenStage 2 includes a powerful, flexible search engine with these enhancements:

- no premium price for the feature
- when exact matches cannot be found, partial matches are presented
- fuzzy phonemic allows for spelling mistakes
- both song and artist results presented together



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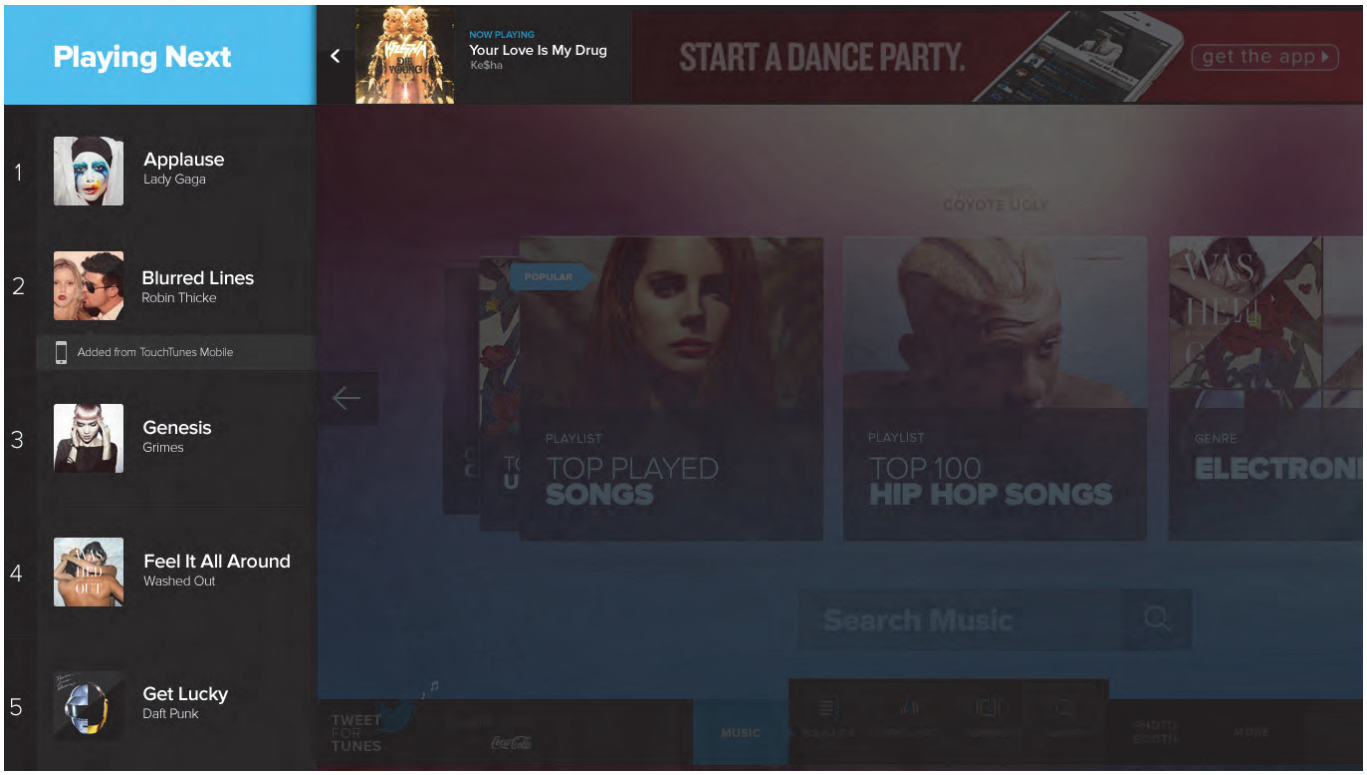
Visible Play Queue

By tapping the left chevron button in the top-left of the screen, users can see the first four songs in the play queue. This can influence patrons to play their own songs, causing them to use the **Play Next** feature.



Two Screen Display

The second screen LED array shows service messages such as Pause and Volume Control.

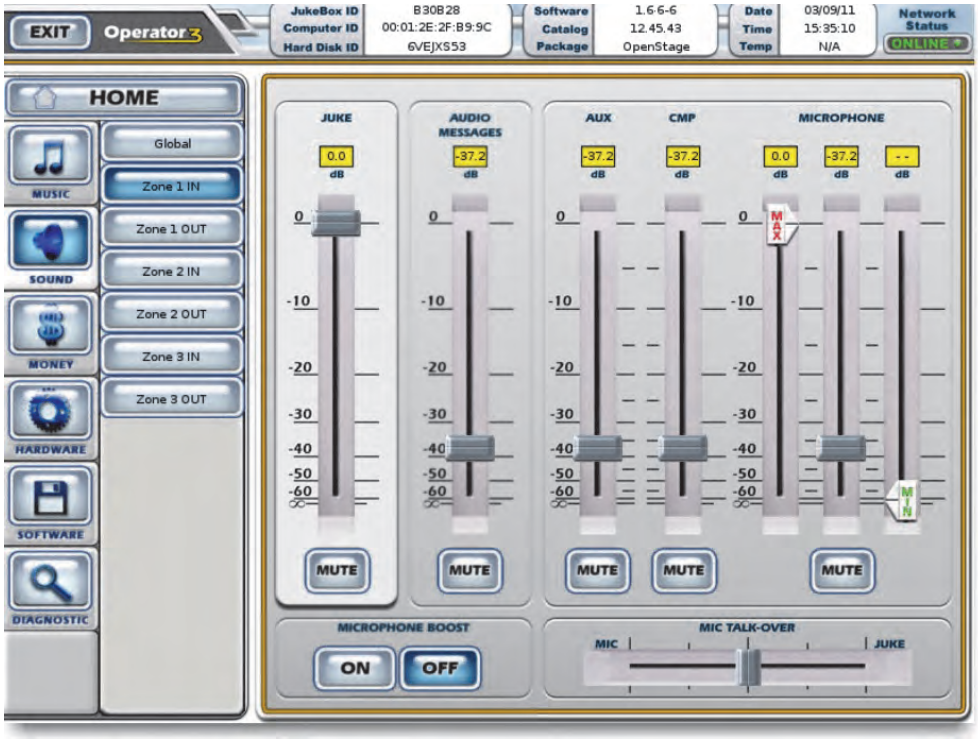
This interaction does not impede operation when a customer is using the jukebox.

Live Equalizer

A graphic equalizer style presentation on the LED area clearly identifies the source of the music playing and provides a huge call-out by being bright and present in the location.

Custom Music Programming (CMP)

OpenStage 2 supports separate input and output volume levels for CMP, a.k.a. non-interactive background music. For how to set the levels, see Setting Custom Music Programming (CMP) Levels.

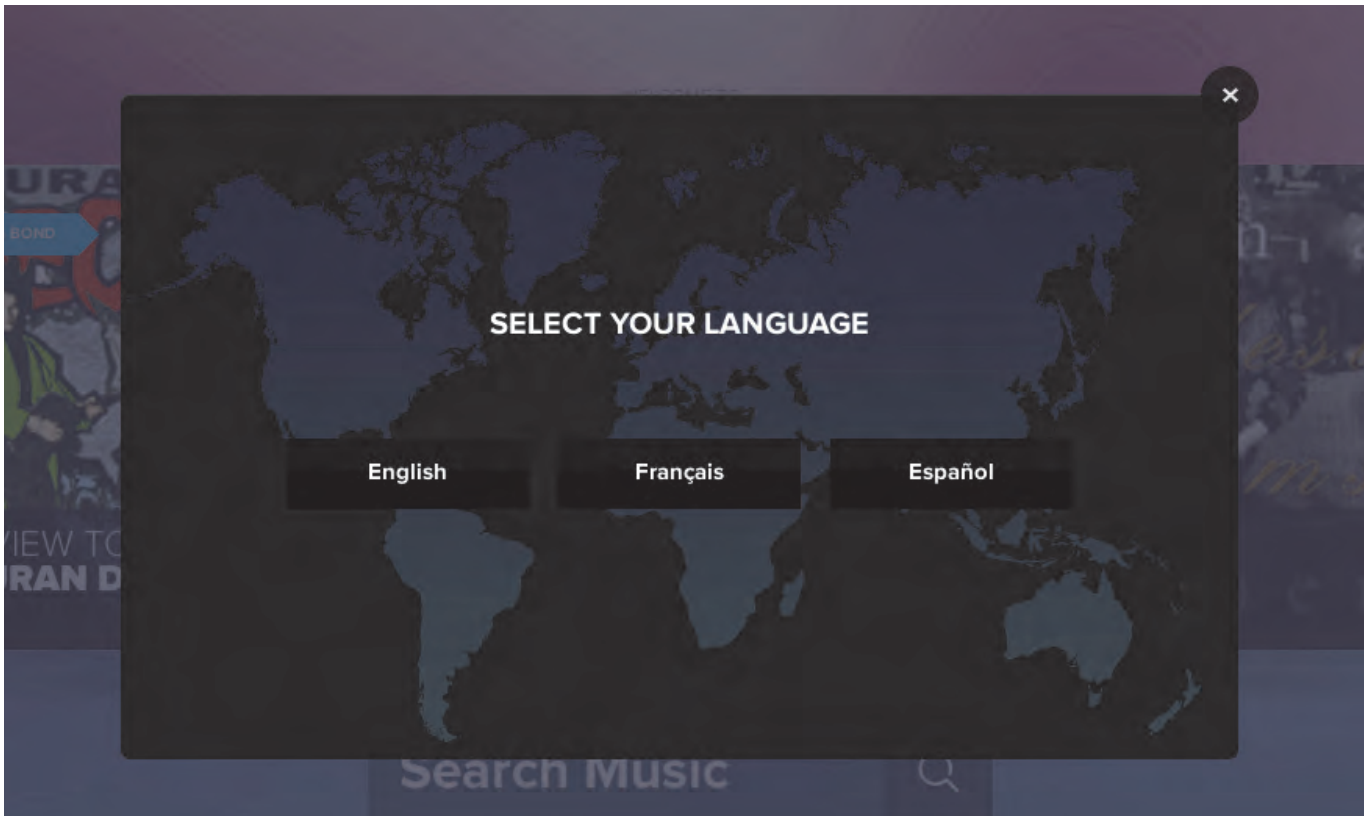


Operators can adjust the CMP levels through the Sound menu.

This feature gives Operators flexibility in controlling volume levels in different zones.

Expanded Language Support

OpenStage 2 provides full user interface support in English, French and Spanish. Patrons can change the language on the interface during their session. The UI always resets to the default language when a new session starts.



To configure the language options, in the Operator interface, select a default language from Software > Languages and reboot Virtuo II. For how to change the language options, see Changing Languages.

NOTE	Language options apply only to the user interface. English is used for the Operator menus.

HD Attract Video Loops

OpenStage 2 uses HD video to attract customers with high definition promotional video loops when Virtuo II is in attract mode.

Mobile Banners

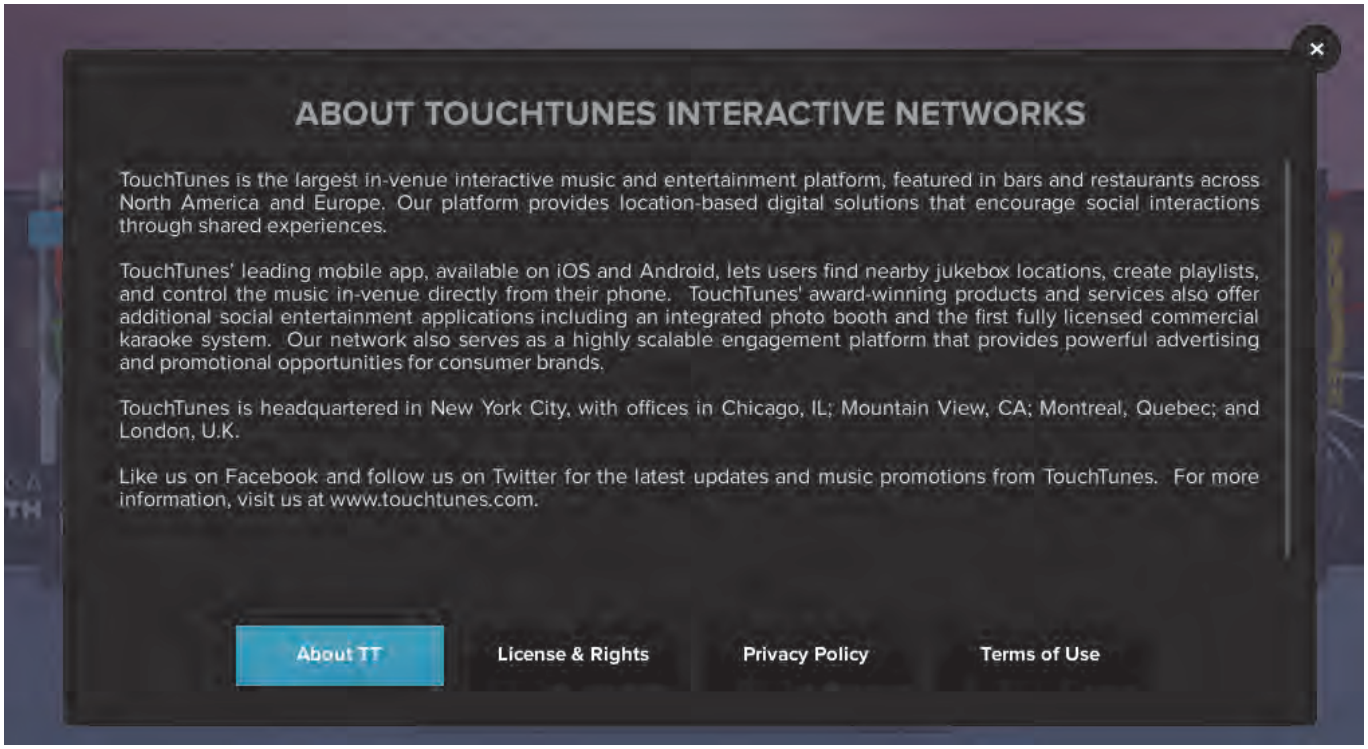
Virtuo II has rotating TouchTunes banners to attract mobile users to use the TouchTunes mobile app. When customers touch a banner they're directed to a billboard with information about the TouchTunes mobile app.

Improved Sound using Bass Boost

Virtuo II is equipped with DSP (Digital Signal Processing) technology for superior audio quality, equalization and noise reduction. Bass Boost, which is individually controllable for all 3 audio zones is, by default, turned off.
To enable Bass Boost see Enabling Bass Boost.

About TouchTunes Screen

OpenStage 2 has a redesigned About TouchTunes screen that you access by touching “About TouchTunes” under the “More” menu in the lower middle of the interface. Here you will find the License & Rights, Terms of Use, the Privacy Policy, and information about TouchTunes and its music partners.



TouchTunes

3 Pre-Installation

This chapter explains how to prepare to install a Virtuo II jukebox for a location, including unpacking the unit and setting up communications connections.

Topics

Unpacking and Checking Virtuo II Components

Setting Up a Broadband Connection

Preparing Tools for Installation

Unpacking and Checking Virtuo II Components

Virtuo II is delivered in one box, including the hardware components and an accessories kit.

These tables show the weight and dimensions of Virtuo II.

Virtuo II weight	
Virtuo II jukebox	122 lbs. (55.5 kg)
Wall bracket	10 lbs. (4.5 kg)
Packaging	17.5 lbs. (8 kg)

Virtuo II dimensions			
	Width	**Length/ Height**	**Depth**
Virtuo II	28.4 in. (72.1 cm)	39.4 in. (100.1 cm)	10.7 in. (27.2 cm)
Crate	32 5/16 in. (82.1 cm)	42 1/4 in. (107.3 cm)	13 7/8 in. (35.2 cm)

Before you install Virtuo II, ensure that you have received all hardware components and that both hardware components and the items in the parts kit are in good condition.

Note: the hard drive (necessary for Virtuo II to function) is shipped together with Virtuo II, but in separate packaging.

To check that you have all Virtuo II components

1. Verify that you have received these hardware components for Virtuo II:

Component Quantity	Component Description	TouchTunes Part Number
1	Virtuo II Digital jukebox	700778-002 (US) or 700779-001 (CA)
1	Accessories kit	600148-002

2. Open the Accessories kit and verify that it contains these components:

Component Quantity	Component Description	TouchTunes Part Number
1	remote control kit, including mounting bracket, manual and 2 AAA batteries.	600069-001
2	keys	400157-001
1	AC Power Cord, 108”	300846-108
1	Cable flags	900490-001
1	PER,LINE-OUT INTERFACE Line-out box, converts line-level signal from balanced to unbalanced.	700168-002
1	Virtuo II Quick Start Guide	900962-001
1	Virtuo II Connection Diagram	900504-001
1	Virtuo II Installation and Setup Guide (this Guide)	900961-001

3. The wall bracket also comes in a kit (600245-001, included with Virtuo II.) Verify that these are included:

Component Quantity	Component Description	TouchTunes Part Number
2	Sides (metal)	401456-001
1	Center crossbar (metal)	401450-001
2	FAS,SCR,WING,1/4-20x1/2,ZN screws to secure jukebox to wall bracket	200099-008
2	FAS,WSHR,M8,BLK washers to secure jukebox to wall bracket	200154-001

4. Check the condition of the hardware components and parts kit items to ensure they are in good condition.

CAUTION: Do not attempt installation if any hardware component or item in the parts kit is damaged. Contact your distributor or TouchTunes to report the damage immediately and request replacement parts.

Setting Up a Broadband Connection

Every night, Virtuo II contacts the TouchTunes server over the Internet to perform these tasks:

- download any new songs chosen by the location owner or operator through the TouchTunes Operator Dashboard
- download any new updates to the jukebox system software
- download the TouchTunes music catalog
- report the number of plays per song
- report daily income for the jukebox

IMPORTANT: Virtuo II does not support dial-up Internet connections.

Virtuo II requires a broadband Internet connection. The broadband connection:

- Permits the jukebox to quickly download new songs.
- Lets you change jukebox settings via the TouchTunes Dashboard and apply them immediately to the jukebox.
- Provides download on demand. Any patron selections not available in local content are downloaded and played directly, increasing patron satisfaction and revenue.
- Enables you to take advantage of further benefits, such as the TouchTunes mobile app, a feature that lets patrons play songs on the jukebox using a mobile device, without having to interact physically with the jukebox.

For all connections, ensure you use high-quality cable and make the cable run as short as possible to minimize potential problems due to line noise and interference.

Note that the broadband modem and router can be included in a single device, depending on the equipment used by the ISP and the networking setup for the location. Both the broadband modem and the router must be installed and configured properly for Internet access before you can set up a broadband connection for the jukebox.

Preparing Tools for Installation

You may require these tools to install Virtuo II. Ensure that you have all the tools at hand before beginning the installation:

- spirit level to ensure Virtuo II is level
- Phillips screwdriver
- flat-head screwdriver
- adjustable wrench for tightening bolts or nuts
- additional flat telephone cable to reconnect the wired remote

When setting up a broadband connection for Virtuo II, you may also require these tools:

- a laptop computer with a network card and a web browser to test Internet connectivity
- pre-wired Cat5 network cable (or cable, crimp tool and RJ-45 connectors) to connect the laptop and/or jukebox to the router. See Connecting Virtuo II to the Broadband Network (Internet).

4 Installing Virtuo II

This chapter explains how to install Virtuo II, including setting up its hardware and connecting it to a broadband network.

Topics

Moving Virtuo II to its Mounting Location

Locations where a Virtuo II is installed are required to comply with general Americans with Disabilities Act guidelines, including those governing accessible routes and protruding objects. Because locations have different floor plans, TouchTunes does not address these issues in this Guide.

Wall-Mounting Virtuo II

Installing the Hard Drive

Accessing the Cable Channel for Virtuo II

Connecting Virtuo II to the Broadband Network (Internet)

Setting up TouchTunes Wireless Broadband

Connecting Audio Speakers to Virtuo II

Connecting Power to Virtuo II

Closing the Virtuo II Case

Activating the Virtuo II Screen

Moving Virtuo II to its Mounting Location

IMPORTANT: TouchTunes recommends that you unpack the Virtuo II as close as possible to its intended mounting location and **enlist the help of an assistant** when moving it to that location.

Do not, under any circumstances, drag the Virtuo II along the floor to its mounting location. Doing so can cause damage to its finish and, most importantly, to its wall wash.

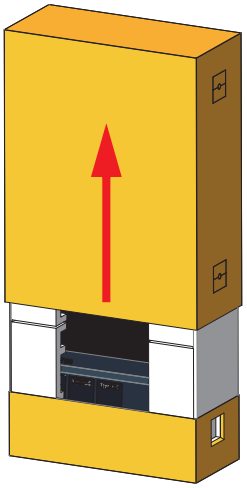
CAUTION: The Virtuo II represents a serious safety hazard if its mounting system should fail. Installation of the mounting system should be performed only by an experienced installer or licensed contractor who is familiar with standard rigging, mounting and hanging practices as recognized by a licensed engineer or government agency in your area.

Note: Locations where a Virtuo II is installed are required to comply with general Americans with Disabilities Act guidelines, including those governing accessible routes and protruding objects. Because locations have different floor plans, TouchTunes does not address these issues in this Guide.

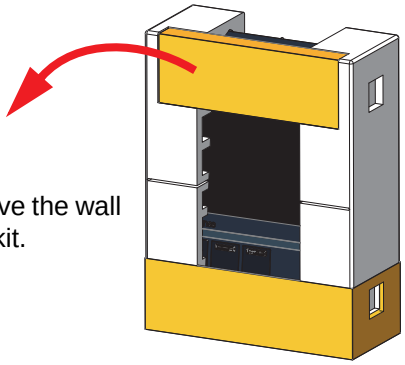
Unpacking Virtuo II

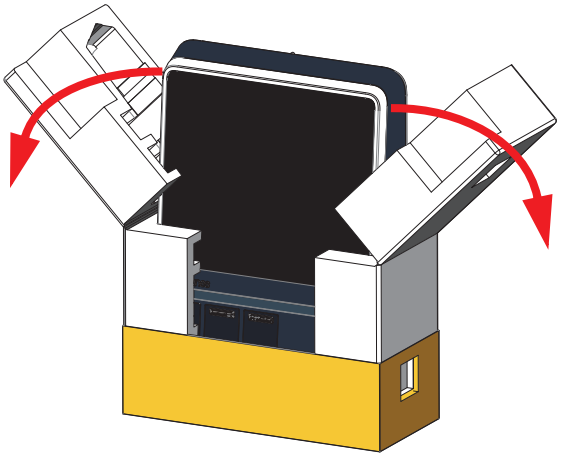
Virtuo II's innovative new packaging is designed to help with installation.

1. Pull the top of the crate up and off.



2. Remove the wall bracket kit.





3. Break away the top halves of the foam packaging.

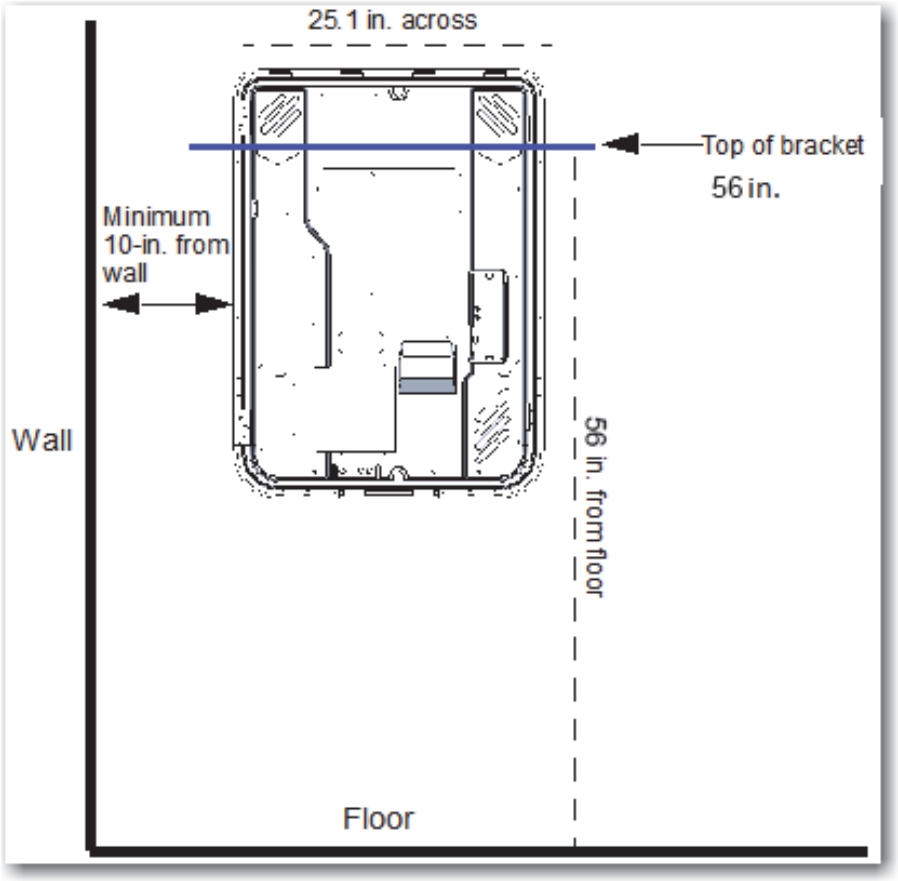
4. Open the top of the bag protecting Virtuo II, and pull down until the back hooks are uncovered.

Wall-Mounting Virtuo II

In this section, you install Virtuo II, level it so it is stable and then open its case to access internal components.

IMPORTANT: TouchTunes has conducted extensive ergonomic studies to determine the optimal viewing height, viewing angle, and relaxed sight range for wall-mounting Virtuo II. To provide the best user experience for patrons, as well as maximizing gross coinage, TouchTunes strongly recommends that you adhere to these guidelines for wall-mounting the unit.

1. **Important:** When installing in a location where there is an intersecting wall to the left, allow at least 10 inches clearance between the wall and Virtuo II to allow free movement of the door and prevent it from being damaged.
2. On the wall where Virtuo II is to be installed, measure 56 inches (4’8”) from the floor and mark this measurement. This measurement identifies where the top of the bracket will be located on the wall.
3. Using the included template, mark the position for the wall bracket on the wall where you intend to install Virtuo II. This measurement shows how far the bracket will extend along the wall. The wall bracket for a Virtuo II is 25.1 inches wide, as measured from the line below the top flanges.

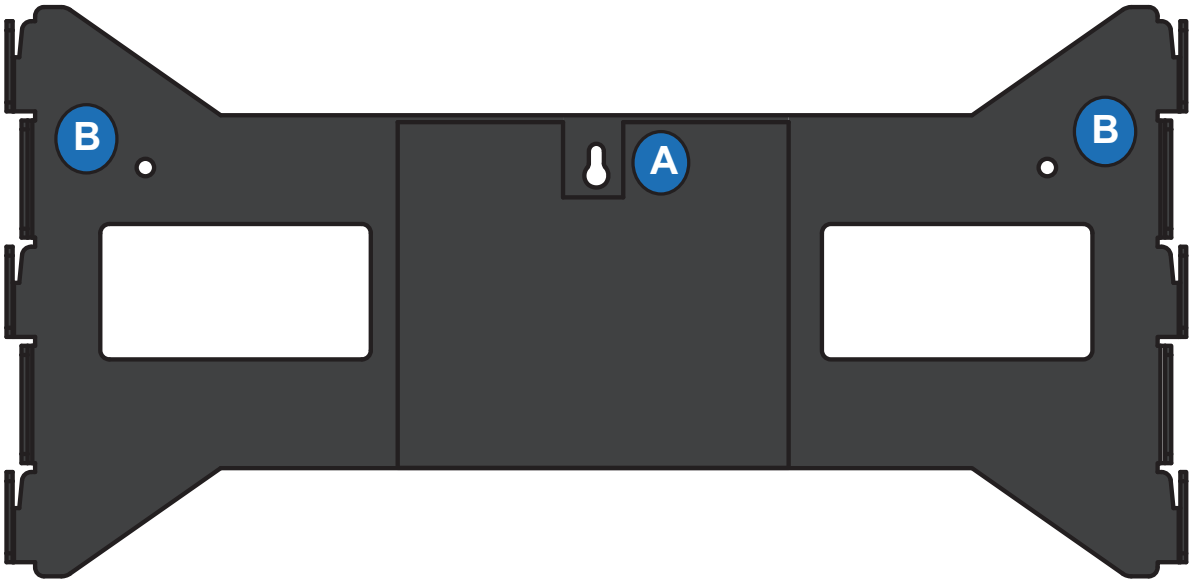


Mounting guidelines for wall bracket

4. Assemble the Virtuo II wall bracket, which comes in 3 parts:

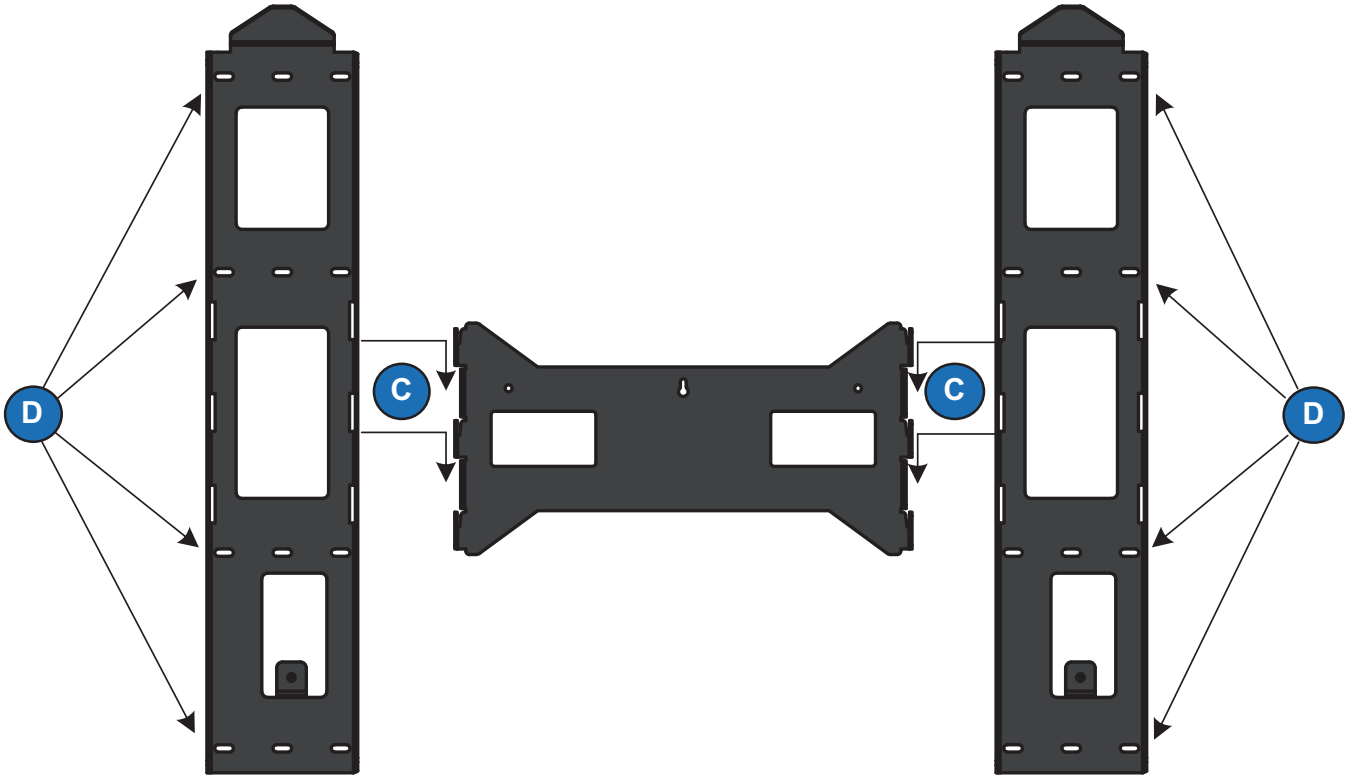
A) Install a screw on the wall, at 56 inches from the floor, in the horizontal center of the area where you will install Virtuo II. With enough of the screw protruding from the wall, hang the central part of the wall bracket onto the screw using hole A.

B) Using a spirit level, ensure that the bracket is level, then fasten it to the wall using holes B.



C) Slide the side bars of the bracket onto the sides of the central part.

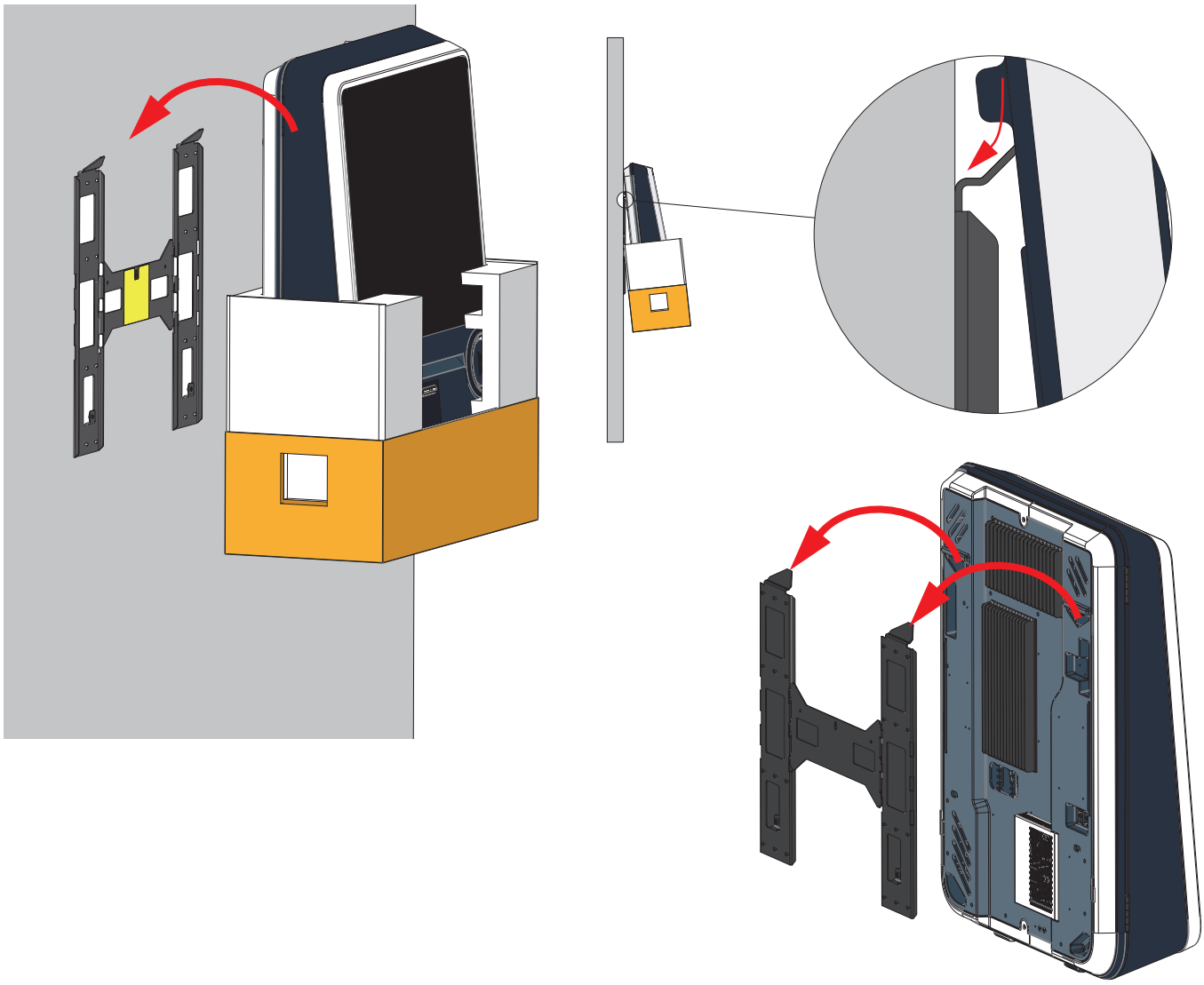
D) Fasten the side bars to the wall using the holes on the bars. Multiple holes are provided at each height to help alignment of screws with underlying studs.



5. Identify the receptacles on the rear of the Virtuo II.
   The receptacles fit onto flange hooks on the wall bracket, securing the Virtuo II to the wall.
6. Using at least two people, lift the Virtuo II so that the top of Virtuo II is slightly higher than the top of the wall bracket
   The Virtuo II packaging includes handles on the side for two people to lift the unit.

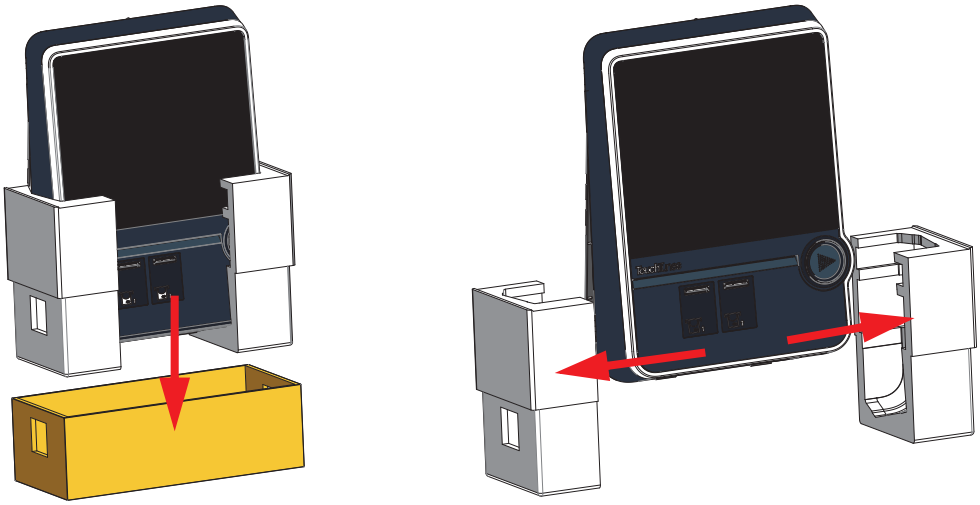
CAUTION: The Virtuo II can cause injury if lifted incorrectly.
TouchTunes recommends at least two people perform the following procedure.

7. Align the flange hooks on Virtuo II with the receptacles on the wall bracket.
8. Hang the Virtuo II on the wall bracket allowing the weight of the unit to set it into position.

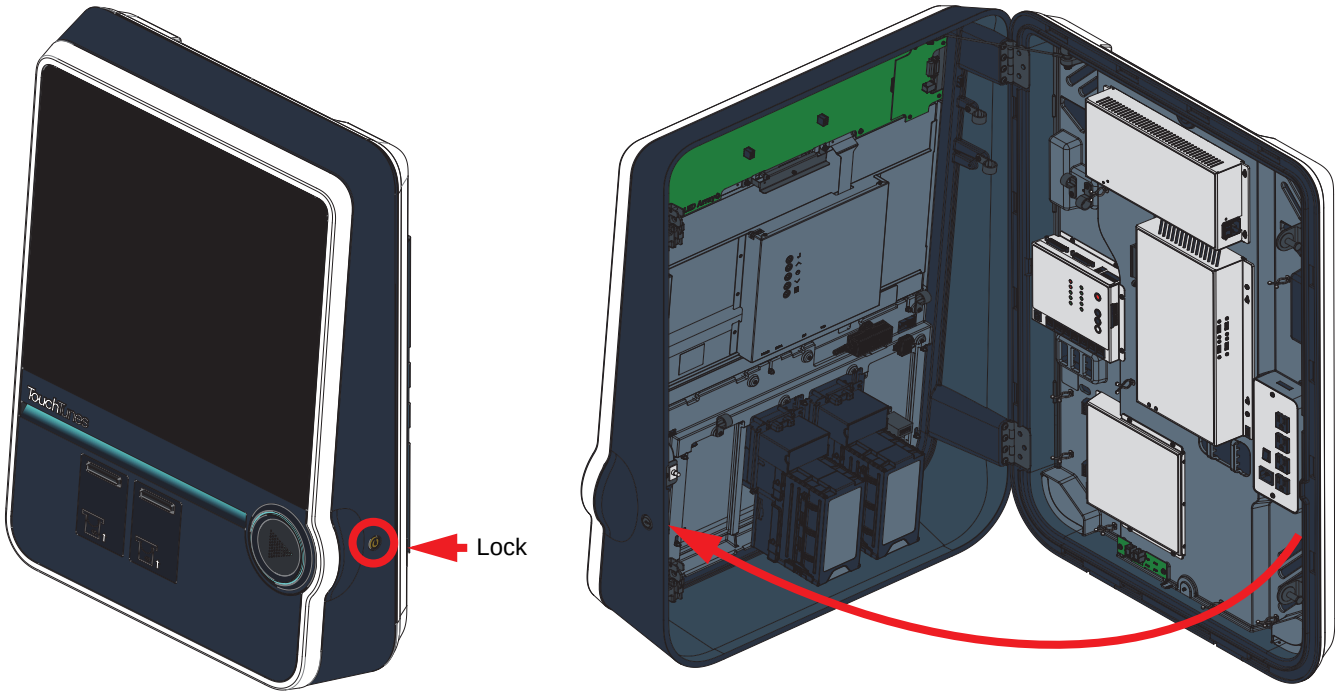


Mounting Virtuo II on the wall bracket

9. Remove the rest of the packaging off the bottom of Virtuo II (including the protective bag, not shown.)

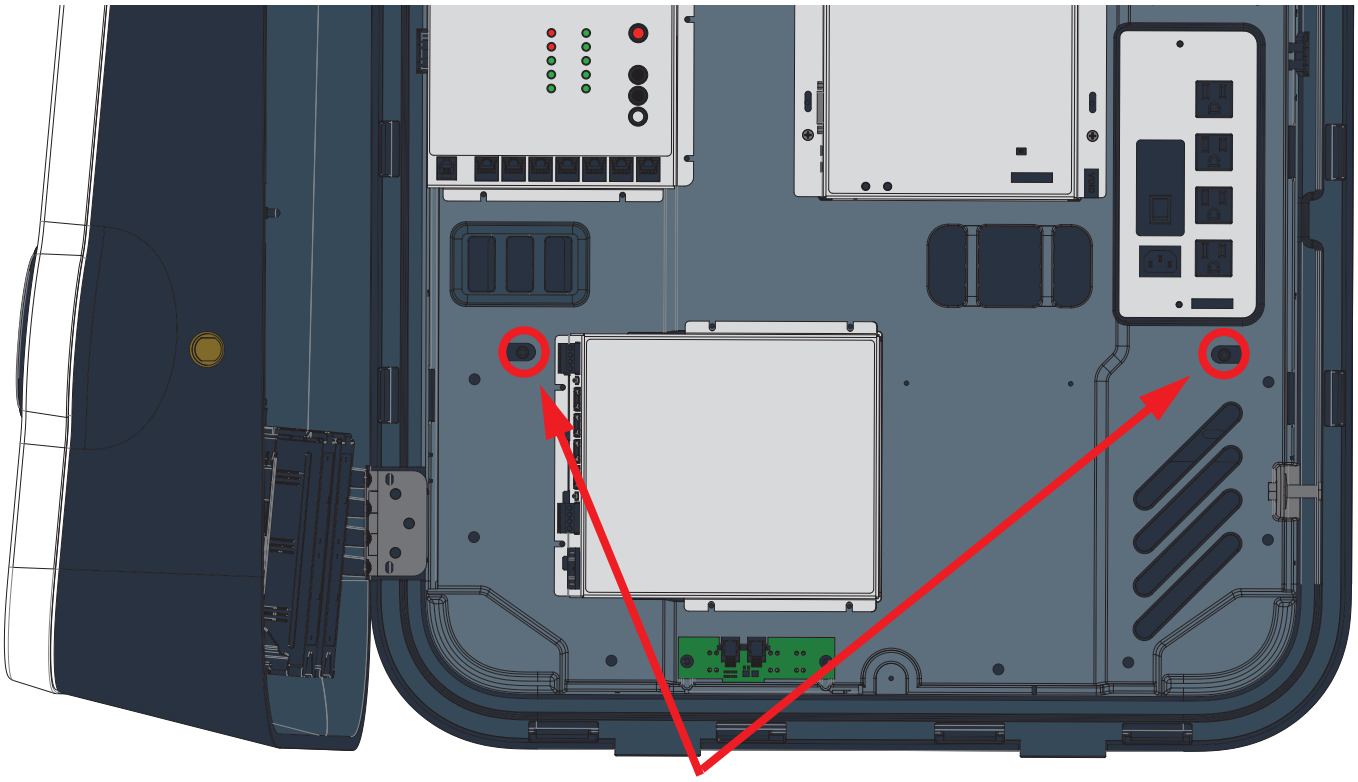


10. After Virtuo II is installed, open the unit to access its internal components and secure Virtuo II to the wall bracket using internal screws.
11. Locate the keys for Virtuo II.
    New Virtuo II's are shipped with two keys.
12. Unlock Virtuo II from the lock on the right side of the unit and then slowly swing open the Virtuo II case.



Opening Virtuo II

13. Using the figure below, identify the location of the holes for the wall bracket screws used to secure Virtuo II to the wall bracket.



Wall bracket screw holes

14. Attach the wall bracket screws to completely secure the Virtuo II to the wall bracket.

CAUTION: The Virtuo II is not secure until the wall bracket screws are installed.

Note: *For instructions on how to mount the Virtuo II to this floor stand, see* ***900579-001 Virtuo Floor Stand Guide****, which was provided with the floor stand, and is also available for download and viewing on the Product & Warranty page.*

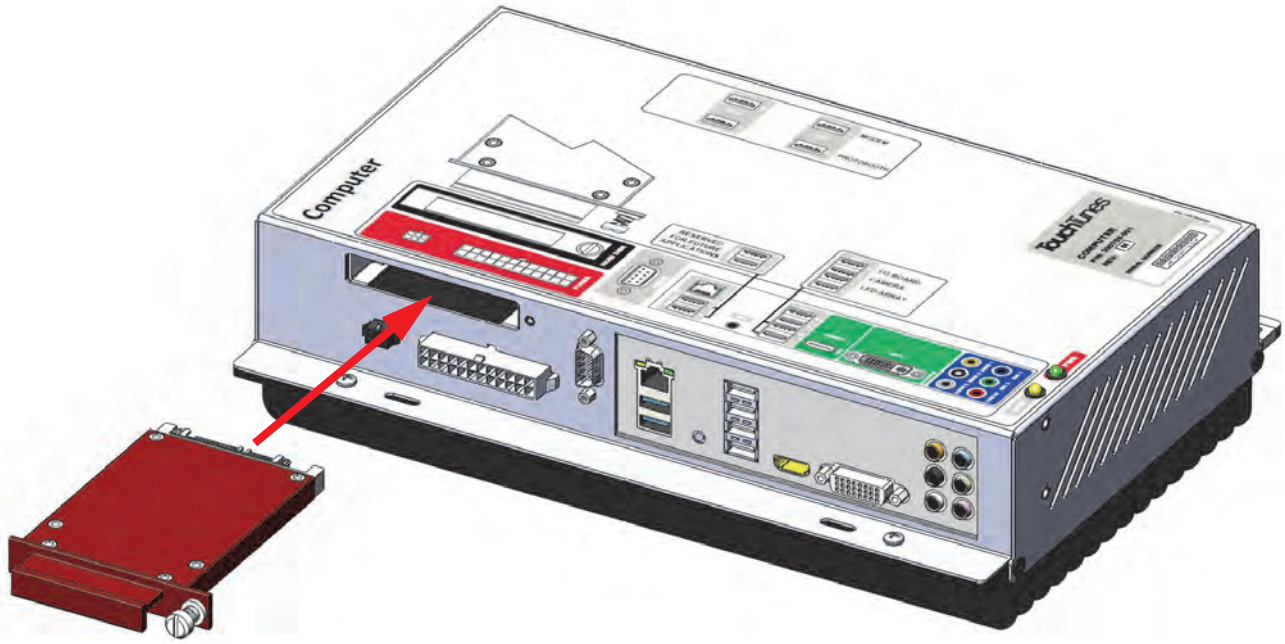
Installing the Hard Drive

Note:	The Virtuo II uses a SATA hard drive with a **red** tray. Do not attempt to swap your Virtuo II's hard drive with an IDE or SATA drive from another model TouchTunes jukebox.

Before you install the hard drive, familiarize yourself with the layout of the central computer in Virtuo II. Refer to Computer to identify the components and connections on the computer for Virtuo II.

To install the hard drive

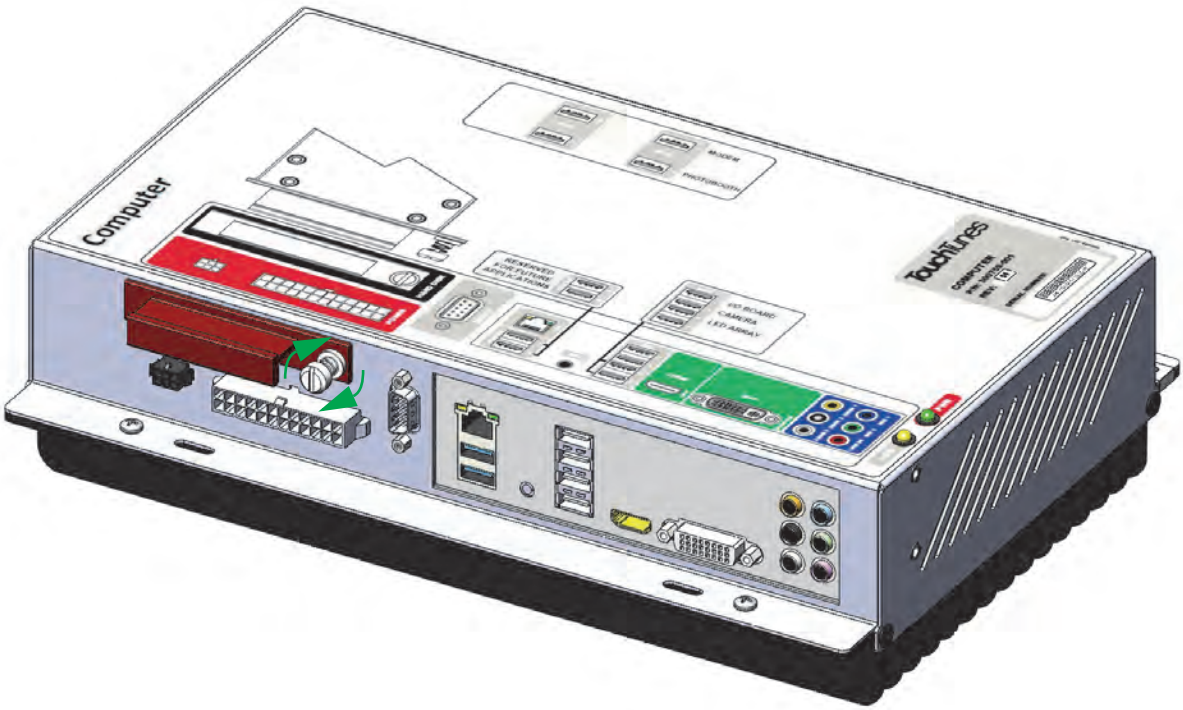
1. Unlock and open Virtuo II, as described in Opening Virtuo II.
2. Ground yourself by touching an exposed piece of metal in the Virtuo II case.
3. Ensure that the computer is powered OFF at the switch on the power supply.
4. Locate the hard drive for Virtuo II.
   The hard drive for a TouchTunes Virtuo II is contained in an enclosure. The hard drive and its enclosure are shipped separately from the main Virtuo II hardware. If the hard drive has not yet arrived at the location, contact TouchTunes or your distributor.
5. Align the hard drive enclosure with its slot on the left-hand panel of the computer.
   The hard drive enclosure cannot be inserted in its slot until it is properly aligned.



Installing the hard drive in the computer

6. Insert the hard drive enclosure in the slot and then gently push the enclosure in until it is completely seated.

7. Using your fingers, push in and then tighten the thumb screw (clockwise) on the hard drive tray until the thumb screw is **securely** tightened.



Tightening the hard drive thumb screw

CAUTION: Using a screwdriver applies significantly more torque than hand-tightening. Do not over-tighten.

WARNING: Do not, under any circumstances, attempt to force the wrong type of hard drive into the HD slot of the Virtuo II computer. By doing so, you risk serious damage to the hard drive and the computer.

8. Test whether the hard drive is firmly seated by pulling out firmly on the handle of the hard drive tray. The hard drive is secured properly when:
   - the thumb screw is completely compressed and covered by the cowl head of the thumbs screw, that is, the spring is not visible.
   - there is no gap between the edge of the hard drive tray and the computer.
   - there is no play between the hard drive and the computer when you pull outward on the handle of the hard drive tray.

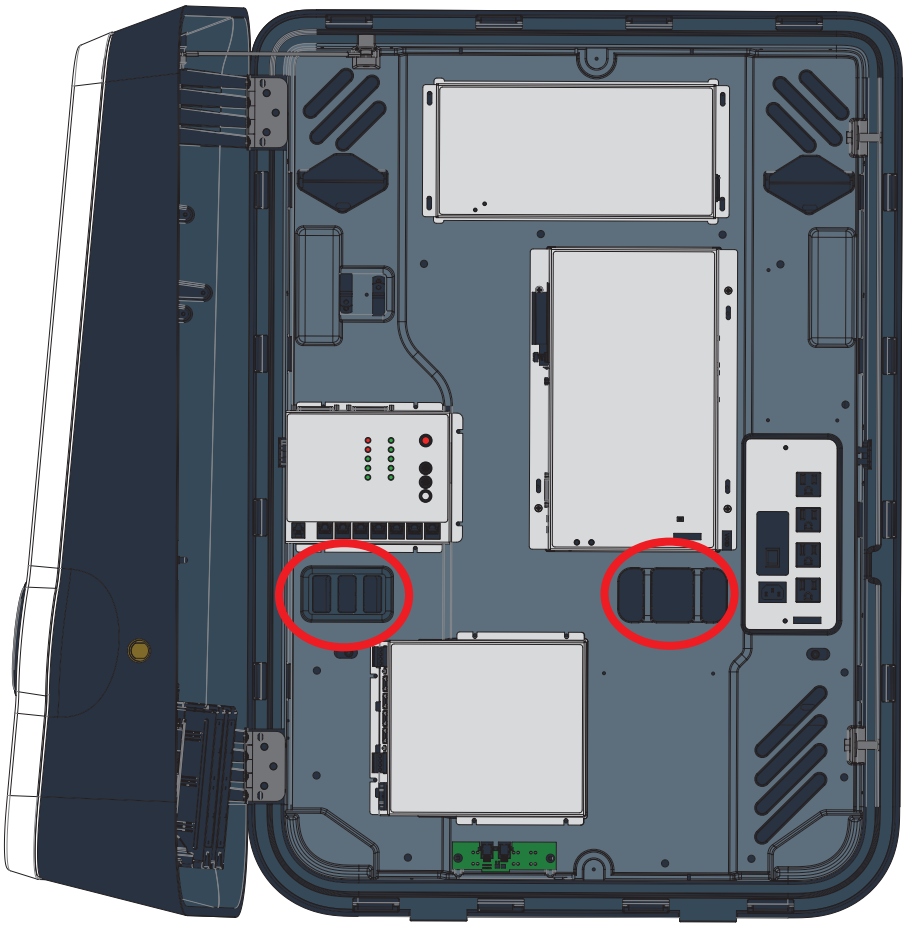
If you detect any play in the hard drive tray, using a slot-head screwdriver, tighten the thumb screw firmly into the computer and test again until no play is detected.

Accessing the Cable Channel for Virtuo II

Virtuo II is designed with a cable channel that lets you route outside cables (such as for telecommunications) to internal jukebox components. A wire-strain relief bracket provides slack for cables inside Virtuo II and also covers the opening to the cable channel to keep dust out. In the following procedure, adjust this bracket to access the opening to the cable channel.

Note:	Route cables into and out of Virtuo II only through the provided cable channel openings. Do not route cables through any other openings in Virtuo II, such as air vents. Otherwise, it can overheat and shut itself down.

To prepare for cable routing in Virtuo II, identify the two cable channels along the back of Virtuo II:



Location of cable channels

Connecting Virtuo II to the Broadband Network (Internet)

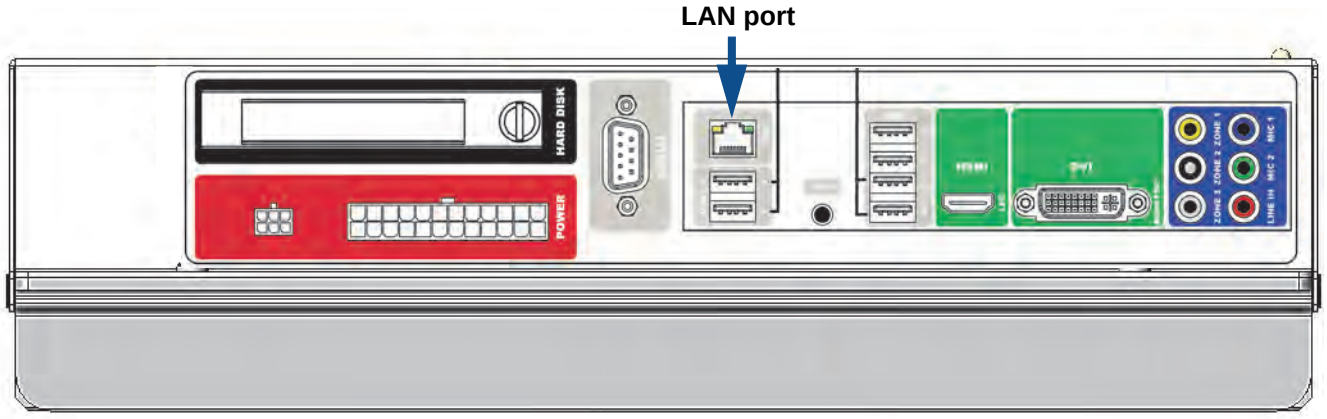
To connect Virtuo II to the broadband network

1. Unlock and open Virtuo II, as described in Opening Virtuo II.
2. Ensure that the strain-relief bracket is in the open position, as described in Accessing the cable channel for Virtuo II.
3. Locate the RJ-45 Ethernet cable for the broadband connection.
   The cable used for a broadband connection is straight-wired Ethernet cable with RJ-45 connectors at both ends. You can either purchase this cable from an electronics store or wire it yourself using this pinout guide.

Wire color at near end	Pin at near end	Pin at far end	Wire color at far end
white + orange	1	1	white + orange
orange	2	2	orange
white + green	3	3	white + green
blue	4	4	blue
white + blue	5	5	white + blue
green	6	6	green
white + brown	7	7	white + brown
brown	8	8	brown

RJ45 connector

4. Connect either end of the cable to the broadband modem or router.
5. Route the free end of the cable in to Virtuo II through the cable channel.
6. Connect the free end of the cable to the port labelled **LAN** on the left-hand panel of the computer.



Connecting Virtuo II to the network

The physical connection from Virtuo II to the broadband network is now complete. You will later configure the communications settings for the broadband network so the Virtuo II can contact the TouchTunes server using this connection.

Setting up TouchTunes Wireless Broadband

TouchTunes Wireless Broadband enables operators to connect their jukeboxes to the Internet using a high-speed wireless connection.

All Virtuo II jukeboxes require a high-speed Internet connection.

The TouchTunes Wireless Broadband hardware kit (TouchTunes p/n: 600186-001) contains everything you'll need to provide your Virtuo II with a wireless broadband Internet connection. This kit comes with its own Installation Guide (TouchTunes p/n: 900761-001) that will guide you through the proper steps for setting up a wireless broadband connection. This manual can be found on the TouchTunes Product & Warranty site, at http://productwarranty.touchtunes.com.

Connecting Audio Speakers to Virtuo II

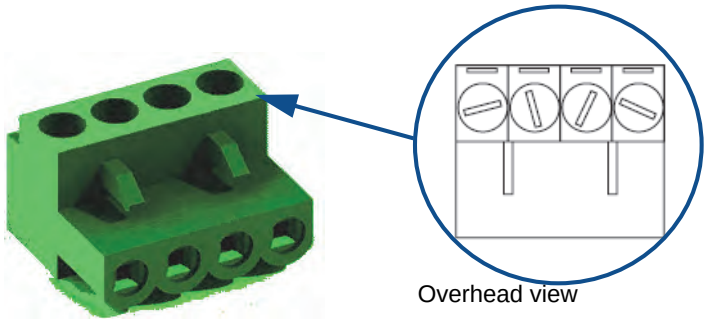
Virtuo II does not include internally mounted speakers. To connect external speakers to Virtuo II's amplifier, you must use the 4-pin Euroblock connector (part no. 100000-001).

CAUTION: Virtuo II's amplifier is specifically designed for use with 4-ohm speakers. Using speakers of a lower impedance is not recommended. If 8-ohm speakers are to be used, they must be wired in parallel in order to enable the amplifier to provide its full power. If 8-ohm speakers are connected directly to the amplifier, only half the power is available.

CAUTION: Bose model 141 speakers will not function with Virtuo II's amplifier. Do not attempt connection of these speakers.
Similarly, wiring two pairs of Bose model 301 speakers **in parallel** can result in unsatisfactory performance.

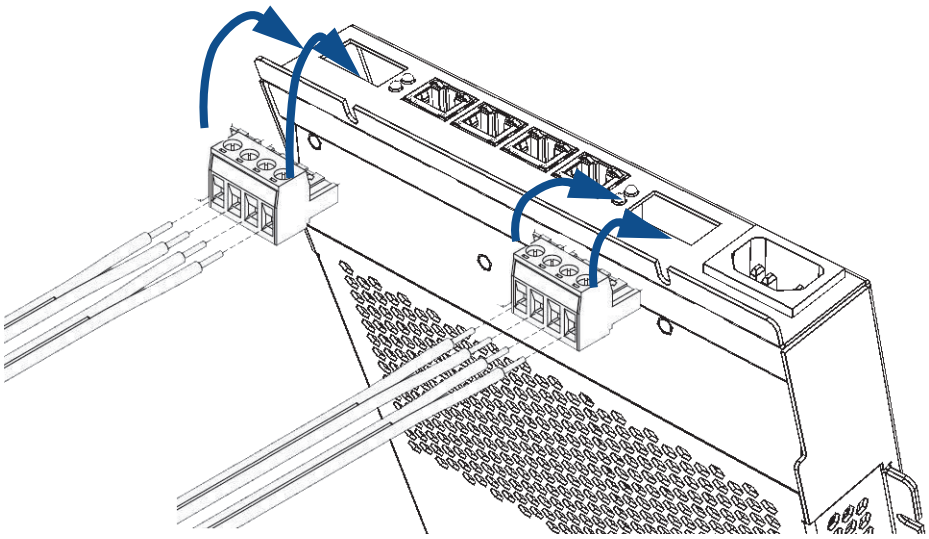
To connect audio speakers to Virtuo II

1. Prepare the speaker wires by stripping the ends of the 4 connector wires, exposing approximately 1/4" of wire.
2. Locate the supplied four-slot Euroblock connector.
3. Loosen the screws along the top of the connector using a flat-head screwdriver, if necessary.



Euroblock terminals

4. Wire the ends of the speaker wires to the Euroblock connector using this figure as a guide.

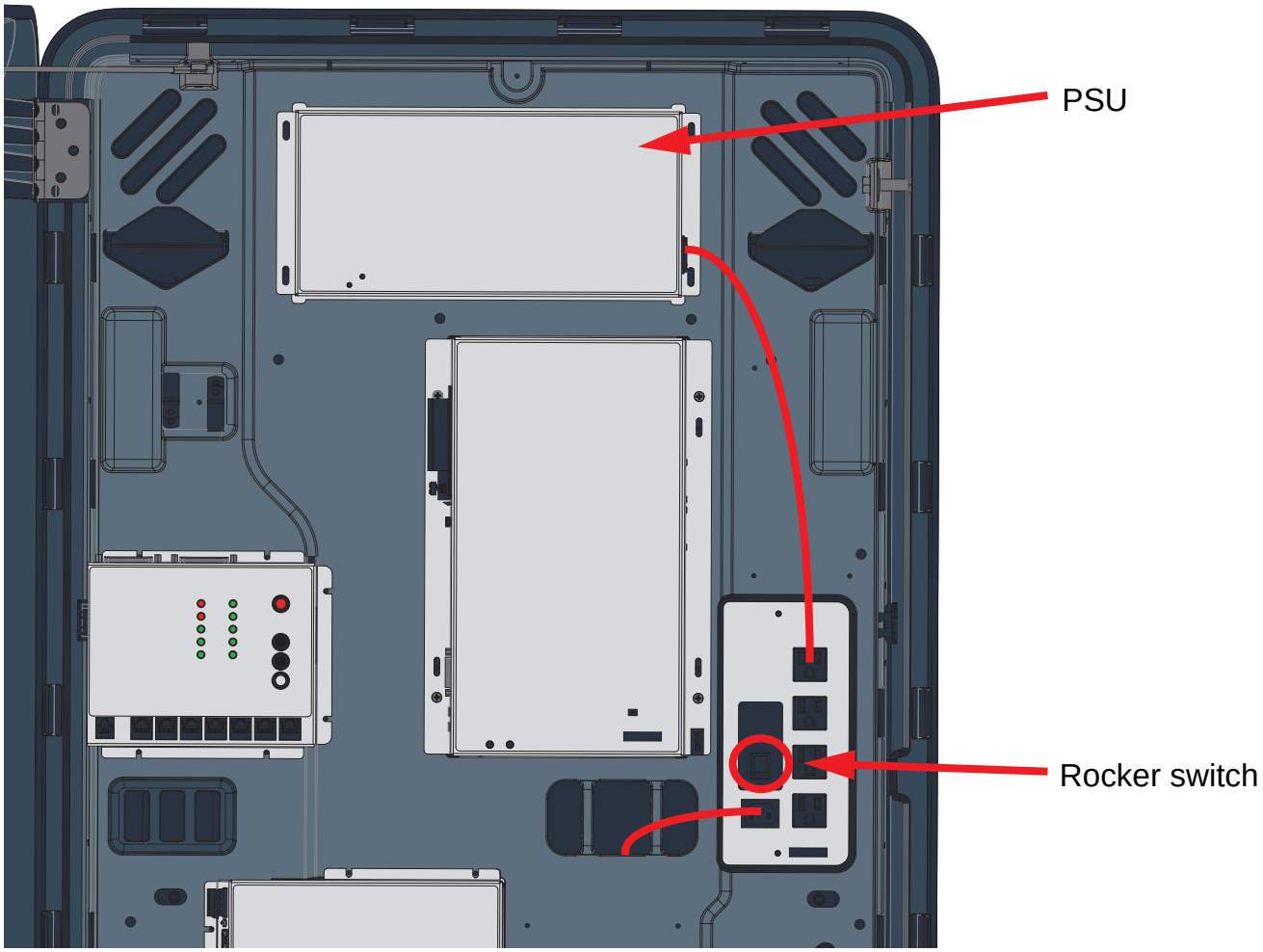


Speaker Wiring

5. Using a flat-head screwdriver, tighten the screws of the slots to secure the speaker cable to the connector.
6. Attach the Euroblock connector to the connector labelled **Zone A or Zone B on the amplifier.**
7. Route the free end of the cables out of Virtuo II through the cable channel.
8. Connect the other end of the cables to the speakers.
9. Ensure that positive terminals on the speaker (marked +) are connected to the positive output terminal on the amplifier and that negative terminals on the speaker (marked –) are connected to the negative output terminal on the amplifier.
   Incorrect connection can result in poor imaging and thin sound.

Connecting Power to Virtuo II

1. Ensure that the AC power cord from the Power Supply Unit (PSU) is plugged into the power strip.
2. Run Virtuo II's AC power cord through the right cable channel, then connect its female end to the socket on the Power Bar, just below the rocker switch. Connect the AC power cord's other end to a properly grounded (3-prong) electrical outlet.
3. Set the power rocker switch on the Virtuo II power strip to **ON**.



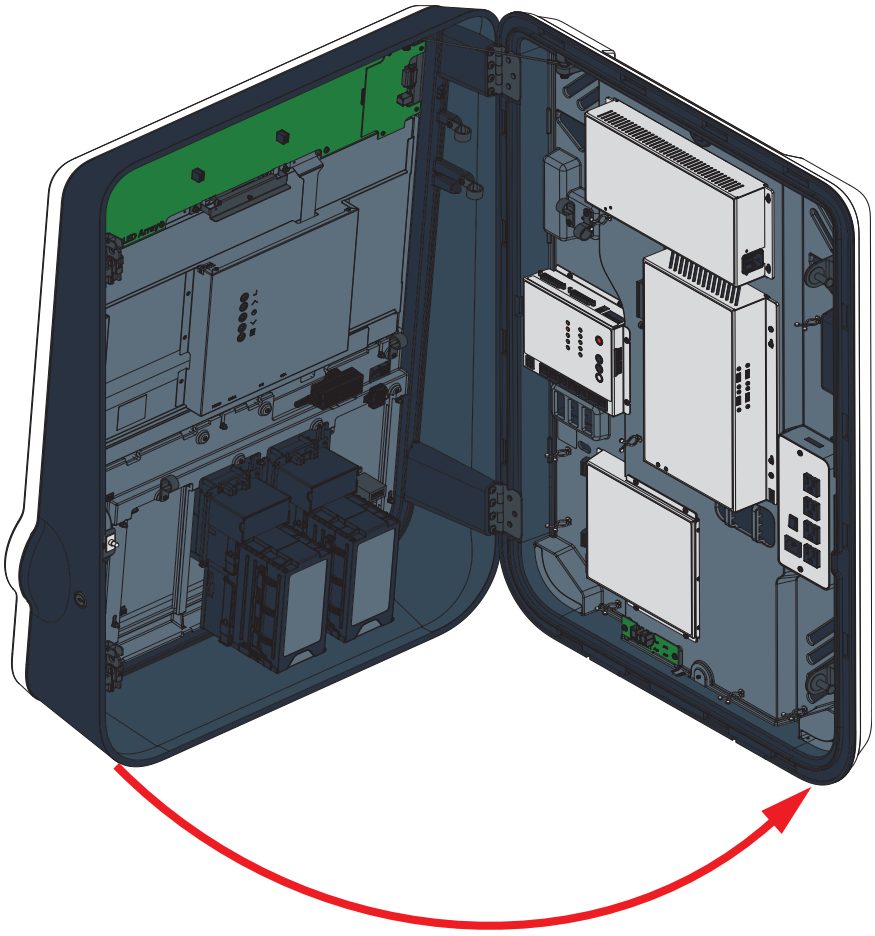
Power supply and power strip

The Virtuo II computer powers up, checks the hardware components and begins loading its system software.

Closing the Virtuo II Case

After you have turned on the Virtuo II, close and lock its case.

1. Close the Virtuo II case by gently swinging it shut and then pressing on its front face to engage the locking mechanism.



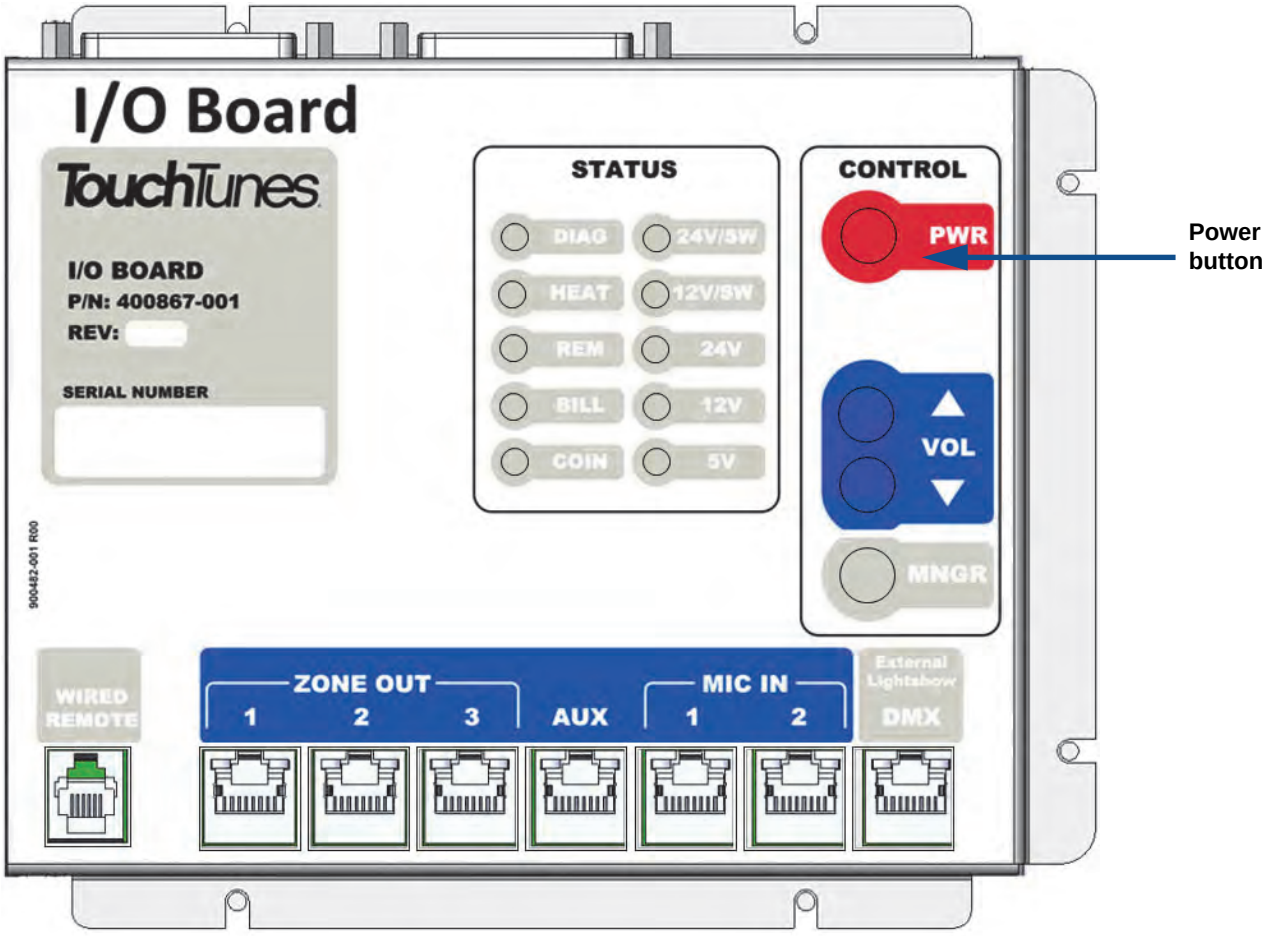
Closing the Virtuo II case

Virtuo II's door automatically locks when closed.

Activating the Virtuo II Screen

When you power up a Virtuo II for the first time, it automatically goes into *night mode*: the computer and other internal components of Virtuo II are running, but the touchscreen, audio system and lights for Virtuo II are disabled. Bring Virtuo II out of night mode and activate its screen before setting it up.

1. On the **I/O board**, press the **Power** button.
   When you press this button, the touchscreen, lights and audio system for Virtuo II are activated. You can now use the touchscreen to activate Virtuo II and configure its settings using the system software.



2. Next, go to Activating Virtuo II to configure and initiate communications with the TouchTunes server and activate Virtuo II.

TouchTunes

5 Activating Virtuo II

This section describes how to activate Virtuo II after you have completed the hardware installation.

Topics

Power on Virtuo II

Configure Virtuo II

- Calibrate the Touchscreen
- Calibrate the Touchscreen
- Select the Configuration Settings
- Select the Languages
- Choose the Virtuo II Settings
- Choose the Calling Window and Connection Type
- Verify the Configuration

Update the Software

Installation Errors

- Corruption in the ID Chip or Hard Drive
- Serious System Error

Power on Virtuo II

WARNING: During these procedures, there can be periods when Virtuo II appears to not be responding. Booting the system with the new hard drive can take up to ten (10) minutes, and the screen can be blank for up to 90 seconds during the initialization procedure.
Do not power down or attempt to reboot Virtuo II during this procedure, or you risk corrupting the hard drive and rendering it unusable.

1. Power on the computer, as described in Connecting Power to Virtuo II.
2. Power on Virtuo II, as described in Activating the Virtuo II Screen.
   The OpenStage 2 splash screen appears showing that Virtuo II is starting the initialization process.

OpenStage 2 Splash Screen

Configure Virtuo II

After Virtuo II is initialized, the Calibration screen appears.

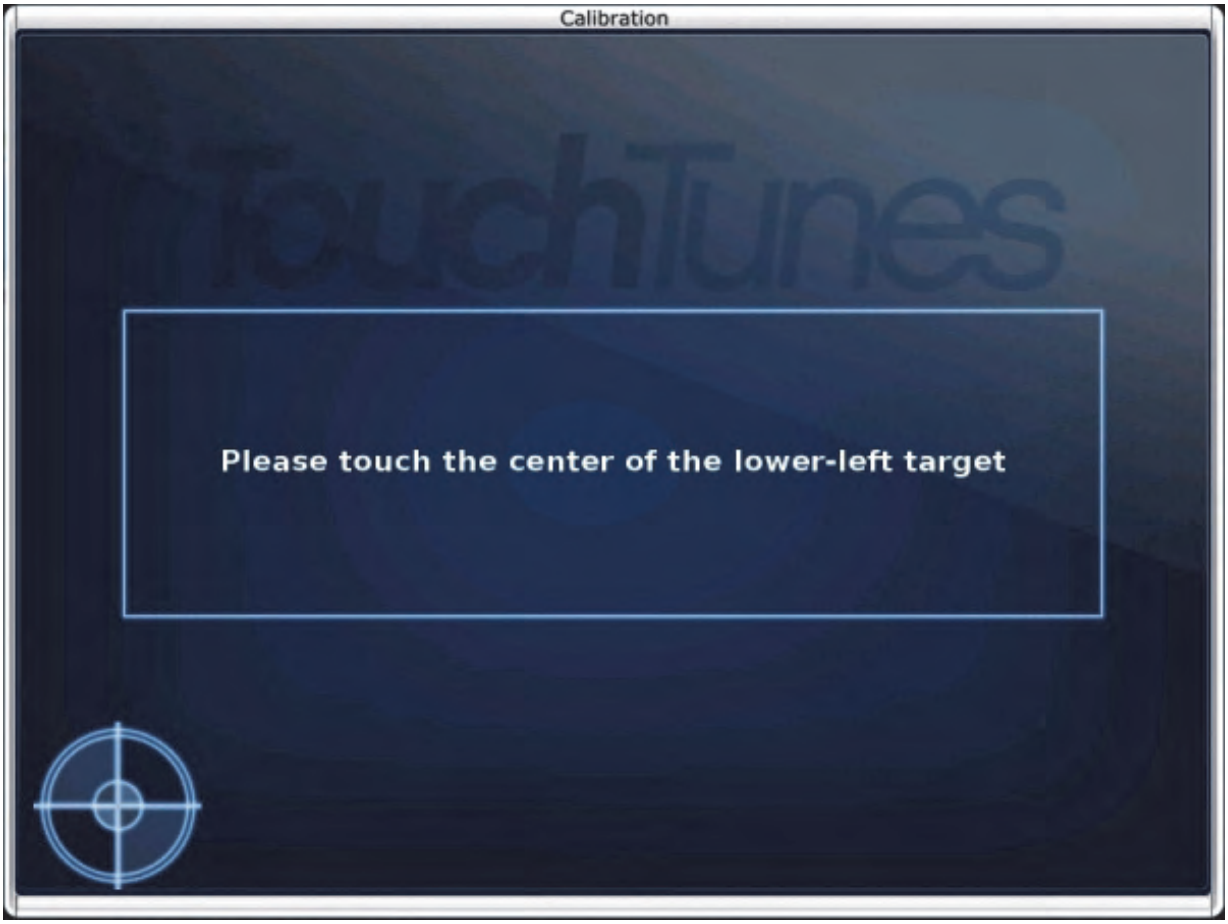
NOTE	If there is a corruption in Virtuo II's ID chip or other serious error, the Calibration screen does not appear and an error message appears. See Serious System Error.

Configuring Virtuo II involves these steps:

1. Calibrate the Touchscreen
2. Select the Configuration Settings
3. Select the Languages
4. Choose the Virtuo II Settings
5. Choose the Calling Window and Connection Type

Calibrate the Touchscreen

1. Touch the center of the target that appears on the upper-left of the screen.
2. Touch the center of the target that appears on the lower-right of the screen.
3. Touch the center of the target that appears on the lower-left of the screen.
   The Settings screen appears.



Select the Configuration Settings

On the Settings screen you select the source for Virtuo II's settings. Settings include mixer levels, credit rules, the remote ID, and the other configurable options available from the Operator interface or from the TouchTunes Dashboard.

Select the Languages

From the Languages screen select a primary (default) language and an optional second language for the customer interface.

OpenStage provides full user interface support in English, French and Spanish. Patrons can change the language on the interface during their session. The UI resets to the default language when a new session starts.

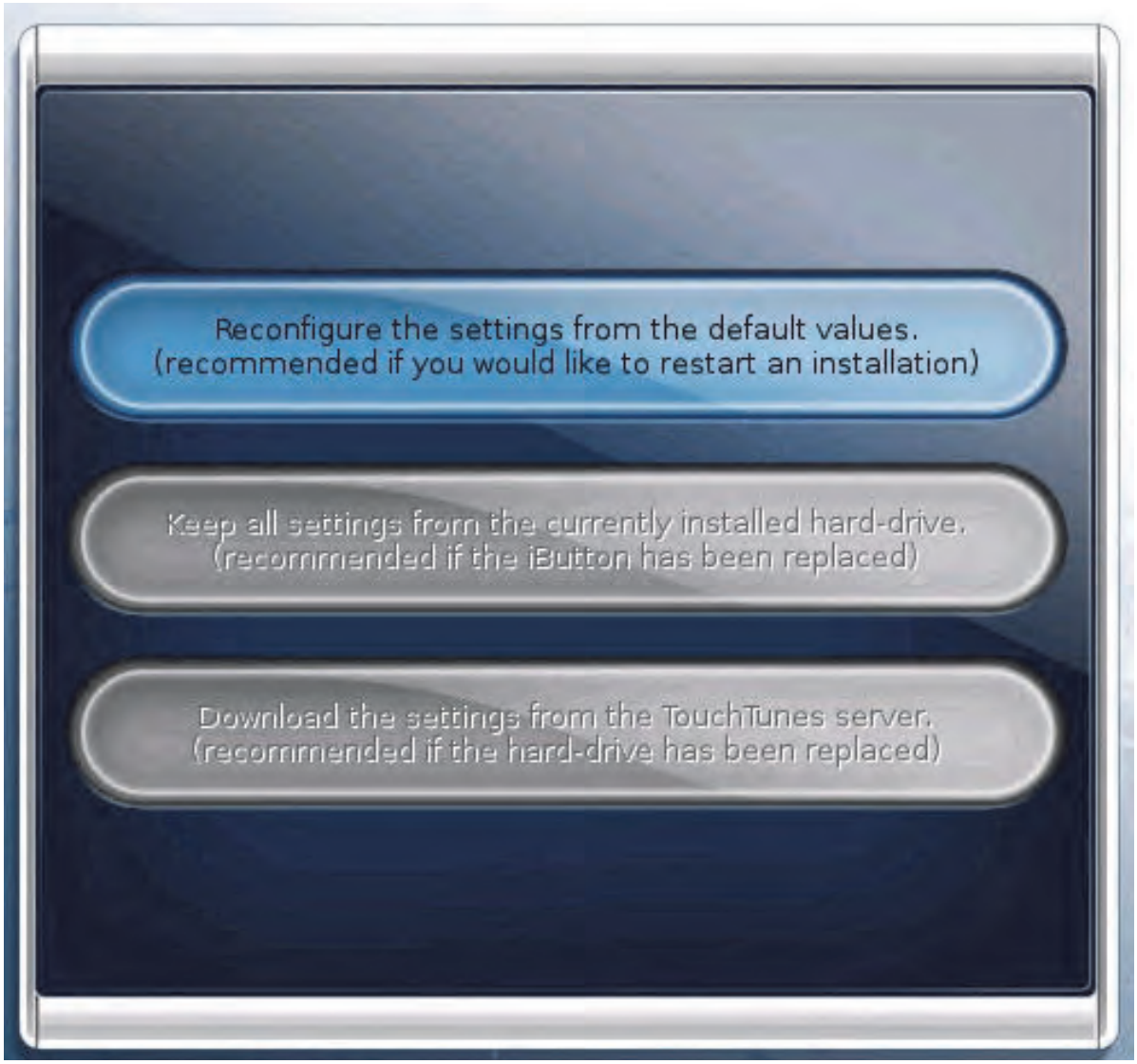
Languages screen

After the initial setup, you can change the languages at any time. To change the language options, in the Operator interface, select a default language from **Software > Languages** and reboot Virtuo II.

NOTE	Language options apply only to the user interface. English is used for the Operator menus.

Choose the Virtuo II Settings

1. Touch one of these selections.



NOTE	On new Virtuo IIs, the only option available is the first one displayed. The others are for cases where the hard drive has been replaced, such as when migrating from previous-generation software. If an option is not available, it is grayed out and cannot be selected.

Reconfigure the settings from the default values	Resets the setting values to the factory defaults. If you are installing the software on a jukebox with a new ID chip and hard drive, this is the only option available.
Keep all settings from the currently installed hard drive	Preserves the settings from the hard drive. Use this option if you replaced the ID chip, or if you are swapping in a hard drive onto which software has been previously installed. In both of these cases the jukebox detects a hardware change and can retrieve the settings from the hard drive. This option is not available if you have installed a new hard drive in the jukebox.

Download the settings from the TouchTunes server	Retrieves the settings from the TouchTunes server. Use this option on a jukebox where the software has been previously installed, where the ID chip stays in place, but a new hard drive is swapped in. In this case the jukebox retrieves the settings for the jukebox corresponding to the identification number in the ID chip This option is not available if a new ID chip has been installed on the jukebox.

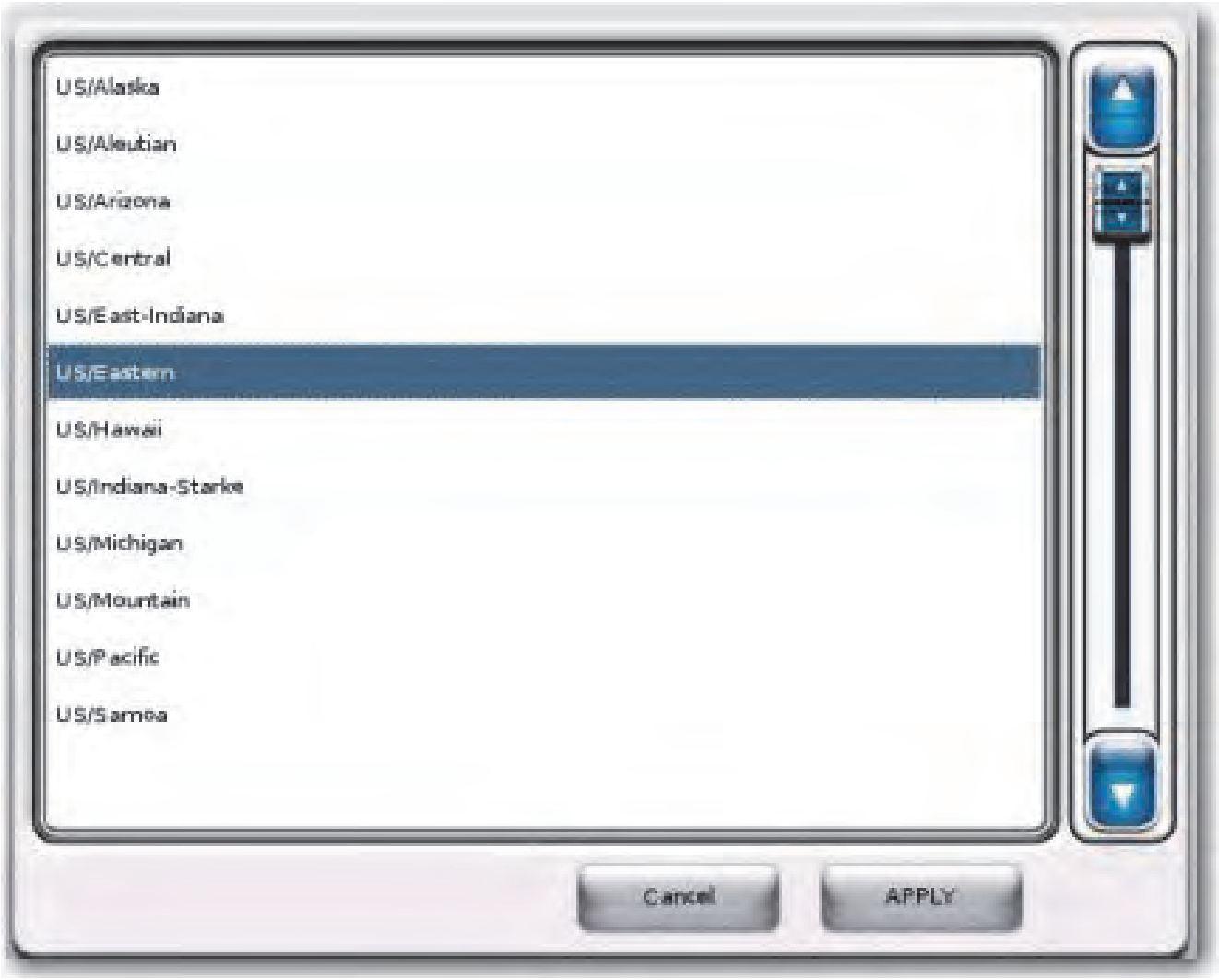
2. Optional: Return to the Settings screen.
   If you chose the Keep all settings from the currently installed hard drive or Download the settings from the TouchTunes server options in the Settings screen, the **BACK** button is available in the C screen that appears. You can touch the **BACK** button to return to the Settings screen. You can do this, for example, if you decide to reset the settings to the factory defaults instead of keeping the hard drive settings.

Choose the Calling Window and Connection Type

After you choose the Virtuo II settings, the Calling Window and Connection Type screen appears. From here you select the nightly time range during which the jukebox communicates with the TouchTunes server and the type of connection the jukebox uses.

Use the plus (+) and minus (-) buttons to set the starting and ending times for when the jukebox communicates with the TouchTunes server.

Time of day to begin connection	Set this to one half hour after the last person leaves and locks the doors. The half hour gives you a buffer.
Time of day to end connection	Set this to one half hour before the earliest person arrives and enters the location.
Config	If you want to specify the location's time zone, click this button to display the Time Zone selection window. Use the scrolling controls to move up and down through the list, touch a time zone to select it, and then press **APPLY**.



Time Zone selection window

With the Connection type controls you choose the type of network connection for the jukebox. Depending on your selection, different settings appear in the lower area of the screen, enabling you to set the connection parameters.

To choose a dynamic (DHCP) broadband connection

1. Select **DHCP** to obtain an IP address automatically from the ISP or the location's router.
2. Touch **Proceed to Validation** at the upper right-hand area of the screen.

To choose a static broadband connection

3. Select **Static** to assign a static IP address, and then enter the configuration parameters for the ISP. The screen refreshes, with all Config buttons enabled so that you can enter the required information.
4. Select the **Config** button associated with the **IP** field.
5. Using the keypad that appears, type in the static IP address supplied by the ISP.

NOTE	The pound (#), asterisk (*****), and minus (**-**) keys are used for entering dial-up information only, and are not used when entering data for a broadband connection.

   - Use the period (**.**) key to delimit the individual fields of the IP address.
   - If you make a mistake, use the **Del** key to erase the input, and then re-enter the correct information.
   - Use the **Clear** key to erase the entire contents of the IP address field.
   - Use the **Cancel** key to cancel the operation and return to the Calling Window and Connection Type screen.
6. When you are finished entering the IP address, press **Apply**.
7. Enter the **Gateway**, **DNS-1**, **DNS-2**, and **Netmask** information supplied by the ISP by using the associated Config buttons and numeric keypad windows.
8. After you enter information in all the required fields, touch **Proceed to validation** at the upper right-hand area of the Calling Window and Connection Type screen.

Verify the Configuration

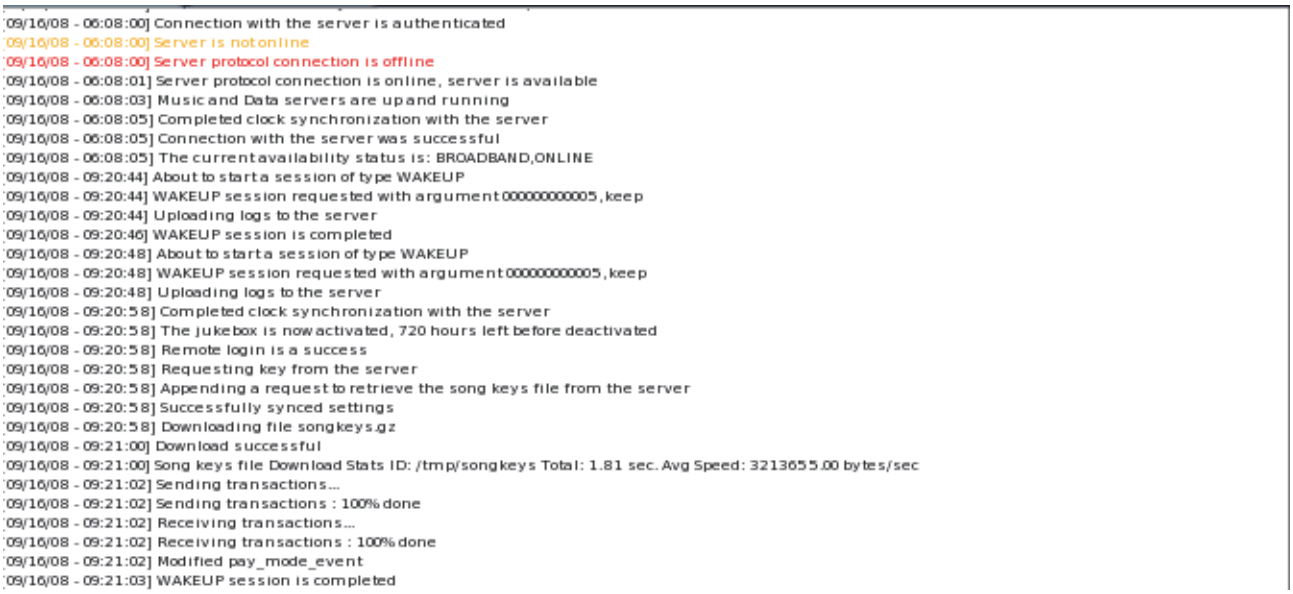
1. Watch the progress on the Communication screen.
   The Communication screen shows the progress of the jukebox as it communicates with the TouchTunes server. The network status LEDs display each communication step, with corresponding information in the Activity messages.

2. Check the status of the Network status LEDs.

LED	Function
Local Ethernet	Whether an ethernet cable is properly connected to the jukebox, and the jukebox is receiving a signal from it.
Host Resolving	Whether the jukebox is connected to the Internet.
Logged In	Whether the jukebox is logged onto the TouchTunes server. The jukebox must be able to log onto the TouchTunes server to receive activation information and perform transactions such as returning daily sales information.
Music Access	Whether the jukebox can access music from the TouchTunes server. The jukebox must have music access to download new songs.
Data Access	Whether the jukebox can communicate with TouchTunes server to receive updates from the TouchTunes Dashboard. The jukebox must have data access to receive any new settings you may have made to it through the TouchTunes Dashboard.

For installation and activation, the jukebox needs the Logged In, Music Access and Data Access LED indicators to be green. There can be cases where one of the access types is offline. After activation, the jukebox functions if one of these is offline, but there can be temporary reduced functionality. For example, if there is maintenance being performed to the TouchTunes Dashboard on the TouchTunes server, data access can be offline. In this case, the jukebox can still receive new music, but any settings you make for it through the TouchTunes Dashboard are not registered on the jukebox until data access is restored.

3. Check the information in the Activity messages.

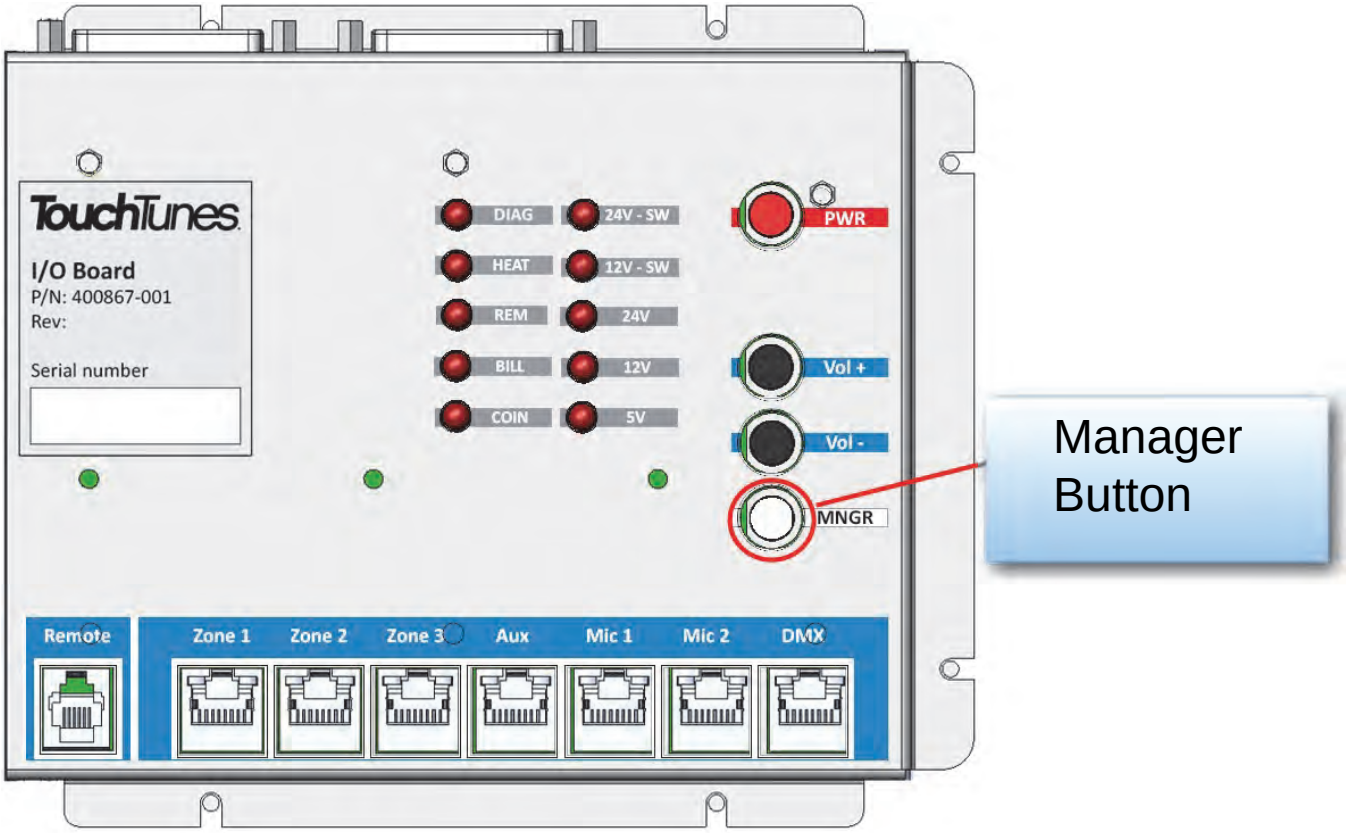


After the Virtuo II is fully initialized, the Attract screen of the Customer Interface appears.

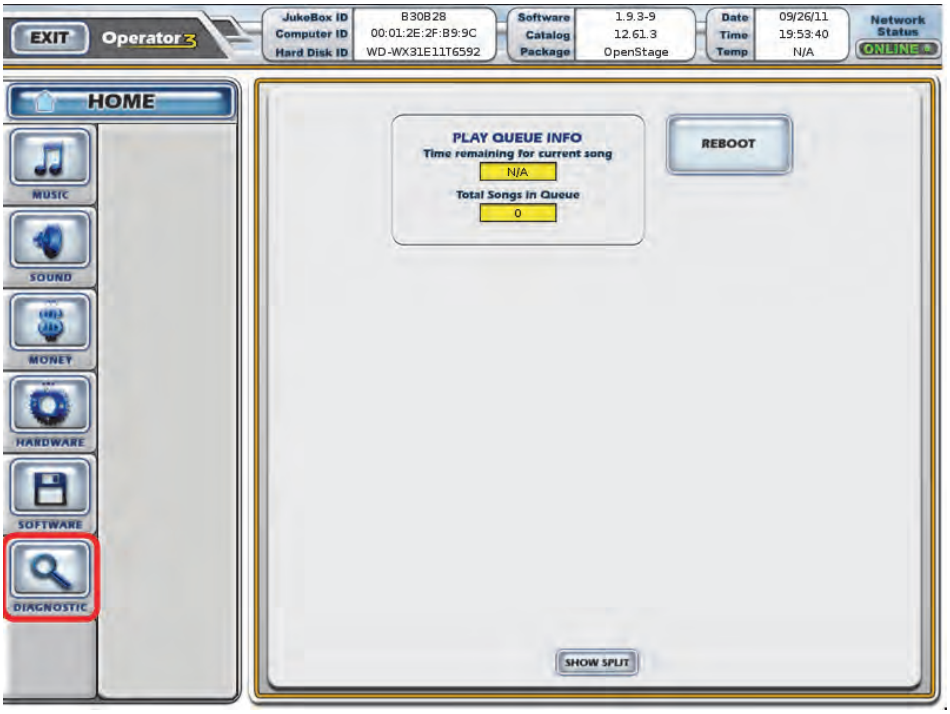
Update the Software

After you activate Virtuo II, TouchTunes recommends that you make sure the Virtuo II has the most up-to-date software.

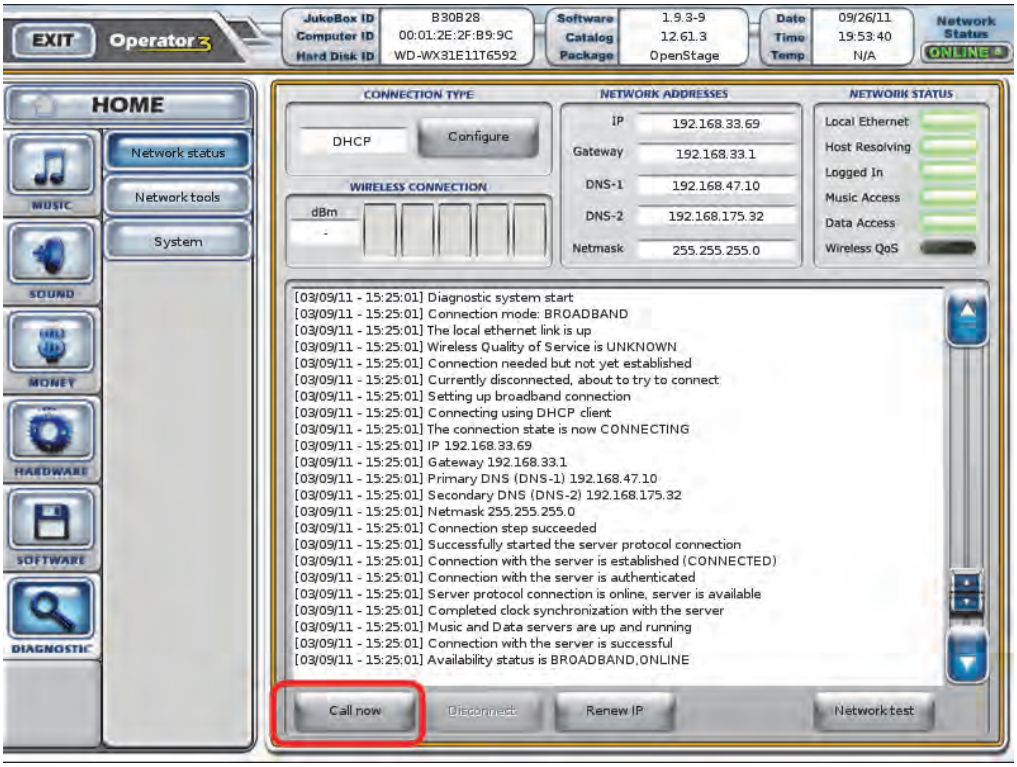
1. Locate the Manager button on the I/O board.



2. Press and release the Manager button. The Operator main menu appears.



3. On the **Main** menu, select the **Diagnostic** button.



4. Press the **Call now** button at the bottom of the menu.
   Virtuo II communicates with TouchTunes servers and downloads the most recent software build.

Installation Errors

During installation, errors can occur if there is damage to the jukebox hardware or corruption to its software. This is rare under normal circumstances.

Corruption in the ID Chip or Hard Drive

Corruption in the ID chip or hard drive can result in the jukebox being unable to play songs on the hard drive. In this case, the jukebox must download information from the TouchTunes server to fix the problem. When the jukebox is started, the Communication screen appears showing it is downloading the required file, and then boots into the Customer interface.

Serious System Error

Under serious conditions such as major system problems with hardware or software, an error screen appears when jukebox initializes saying that you should contact TouchTunes, as no other action can be taken. See Contacting TouchTunes.

6 Setting up Virtuo II

This section describes how to set up and test Virtuo II after you complete the hardware installation and software activation.

Topics

Activating the Operator Interface

Setting Up the Remote Control

Configuring the Bill Acceptors

Testing the Payment Acceptors

Enabling Bass Boost

Connecting an External Audio Source

Connecting a Microphone

Adjusting Touch Screen Brightness and Contrast

Re-applying Filters and Credit Rules

Setting Local Favorites Options

Setting Custom Music Programming (CMP) Levels

Changing Languages

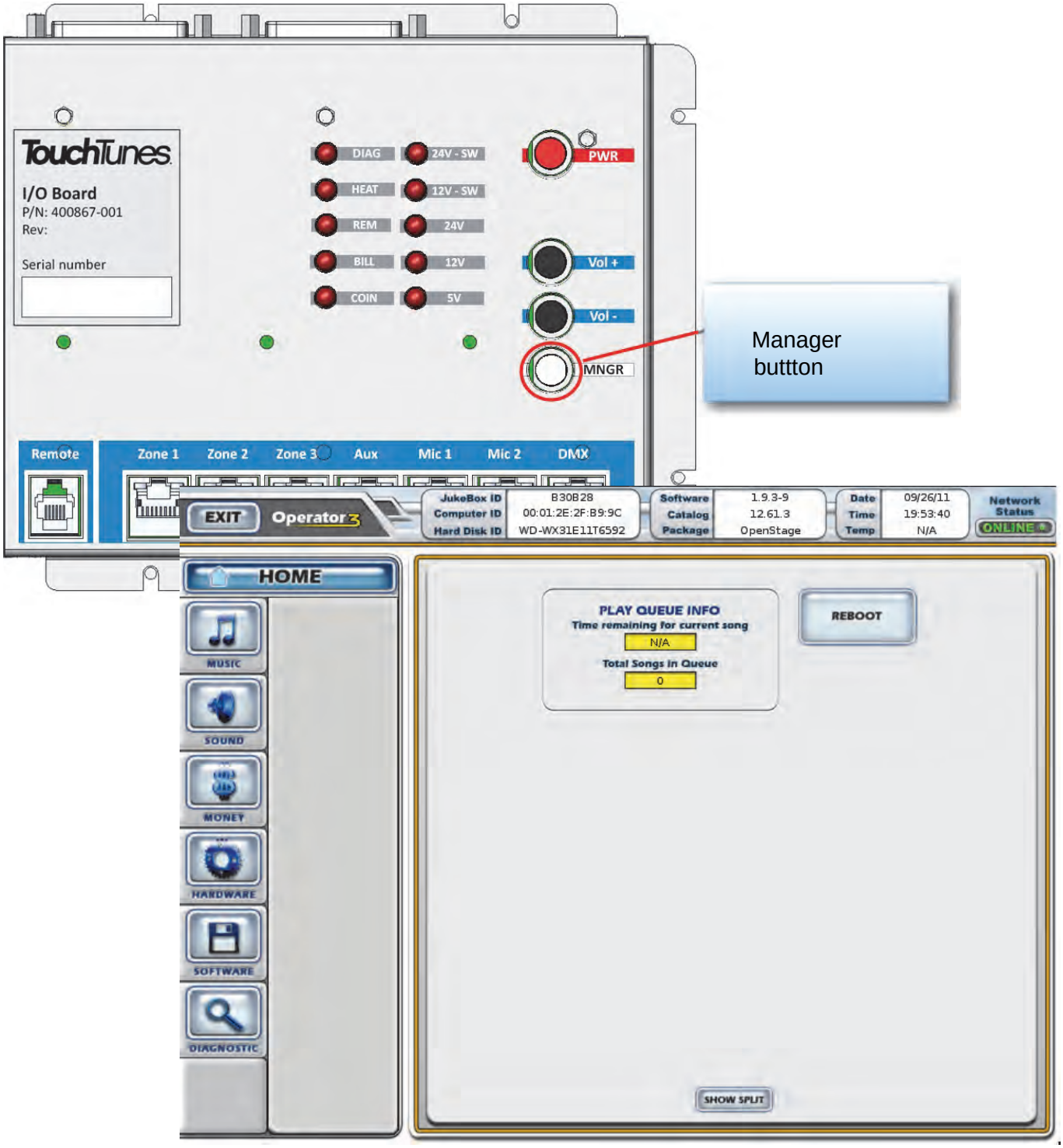
Do Not Apply Stickers to the Virtuo II Touch Screen

Activating the Operator Interface

The Operator interface contains the screens you access through the Operator menu.

To activate the Operator Interface

1. On the I/O board, press and release the Manager button to display the Operator menu.

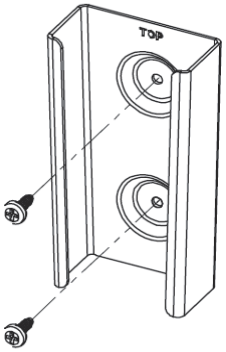


Setting Up the Remote Control

The TouchTunes wireless remote control is a single-frequency remote that transmits a 433.92 MHz (FSK) signal.

The red indicator LED flashes when the remote transmits or is being programmed.

Use the mounting bracket to install the remote control on a wall for easy access. Fasten the bracket to the wall with two screws.



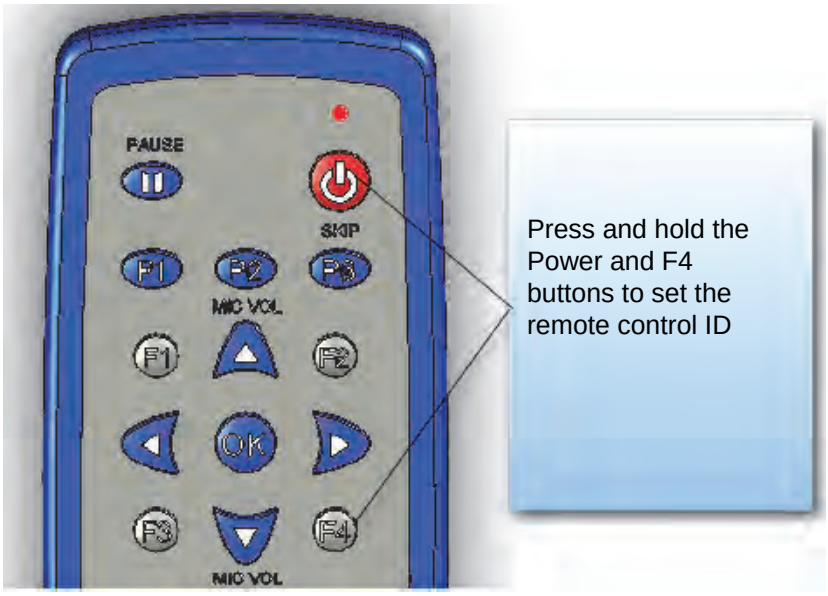
The remote control is RF-based. This means you don't need to point the remote directly at the jukebox when you use it. It has a range of up to 200 feet depending on the obstructions between it and the jukebox. Concrete and metal are more of a barrier than wood or plaster. The remote control can also be affected by interference from other RF-based devices.

The remote control is powered by two 1.5V AAA batteries. Insert the batteries in the compartment on the back of the remote. Use only high-quality alkaline batteries.

Setting the Remote Control ID

By default, the remote control ID is set to 000. To change it, do the following:

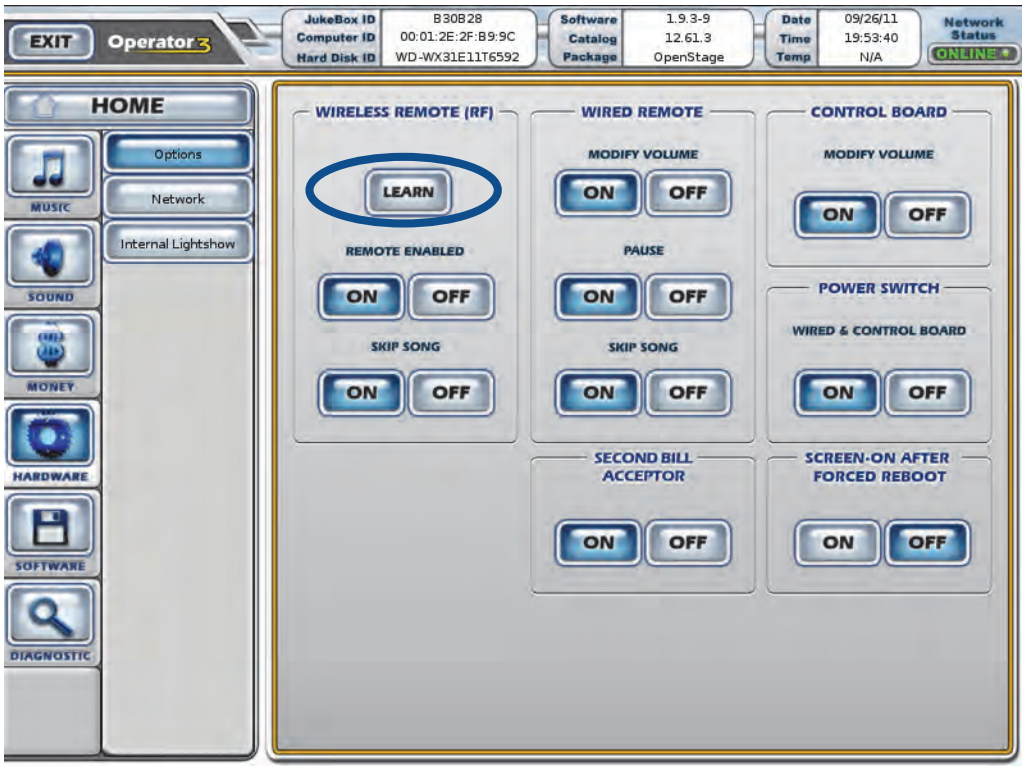
1. Press the **POWER** and **F4** keys at the same time and hold them down until the red indicator light blinks two times.



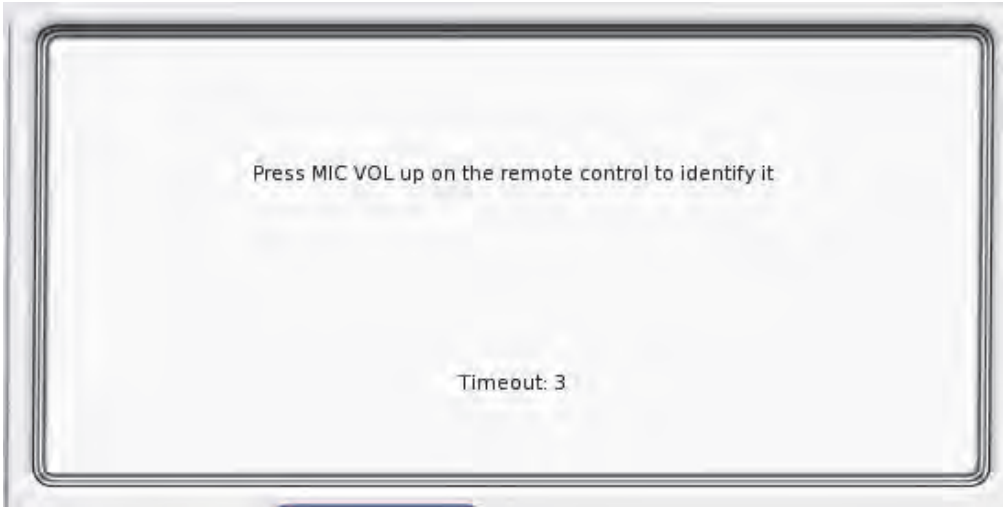
2. Enter the new three-digit code to use. The new code must be in the range **000** to **255**.
3. The red indicator light lights up for three seconds to confirm your selection.
   If you enter an invalid code the light blinks five times.
4. You must now make the jukebox re-learn the remote ID.
   Go to Learning the Remote ID.

Learning the Remote ID

1. On the Operator Interface, press Hardware to display the Hardware Options screen.



2. Press the **LEARN** button.
3. Watch the display. When prompted, press the **MIC VOL UP** key on the remote control. The display shows a confirmation message and returns to the Options screen.



4. Test the remote by raising and lowering the jukebox volume as it is playing.

Remote Key Assignments

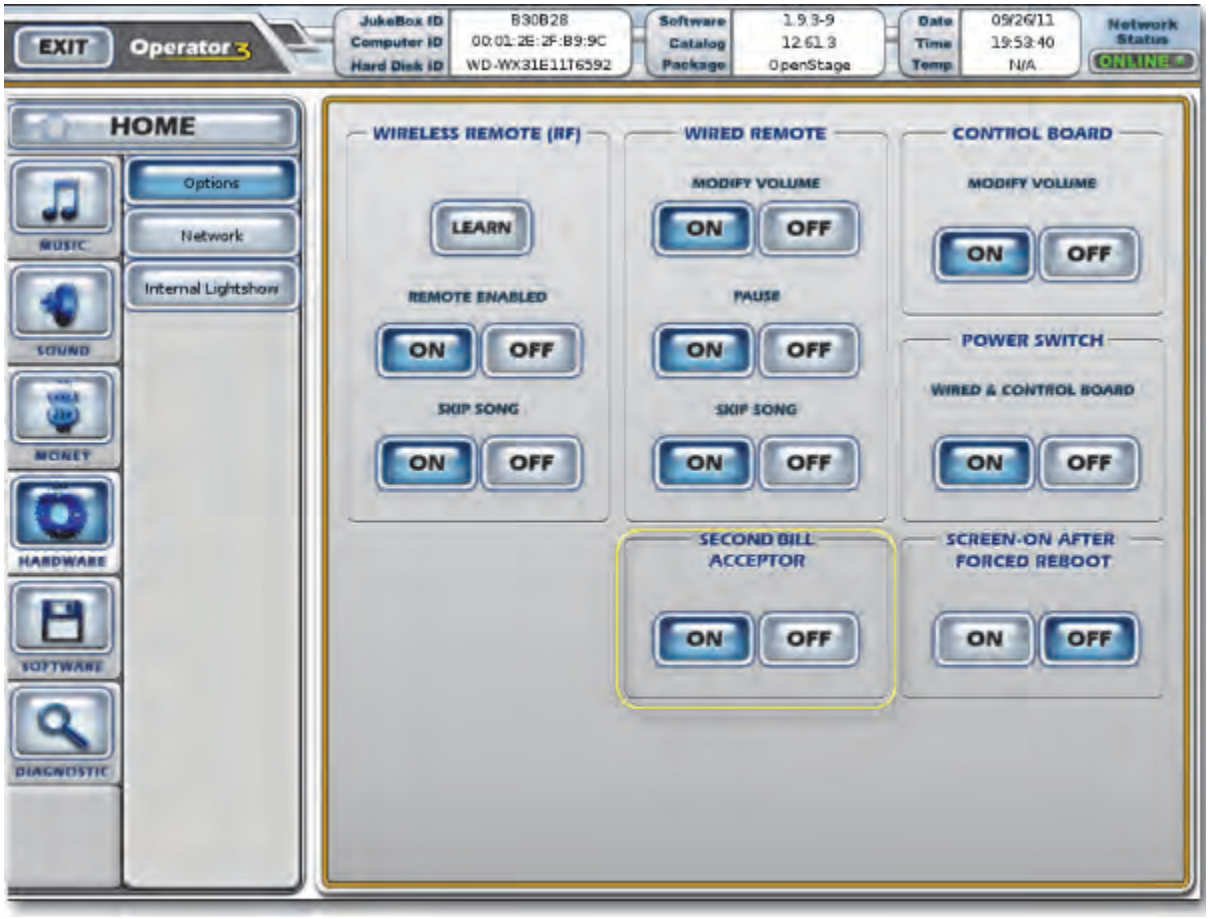
The keys on the remote are pre-programmed for these functions.

Key	Function
Power	Press to turn the jukebox monitor and audio subsystem on or off. The jukebox computer remains on. Equivalent to pressing the Night Mode button on the jukebox (not available on all models).
Pause PAUSE	Pauses the jukebox.
Numeric keys 0 - 9	Used to program the remote and for future use.
MIC VOL MIC VOL MIC VOL	Raises and lowers the volume of the microphone within the limits set on the Mixer Settings screen.
P1 P1	Give promotional credit: Press and release this button to add a credit to the jukebox. Credits are deducted from the promotional credit count. The promotional credit feature is enabled/disabled on the Credit Settings screen.
P2 P2	For future use.
P3/Skip SKIP P3	Skip song: Quickly press and release this button to stop playing the current song and immediately skip forward to the next song in the queue. The skip song feature is enabled/disabled on the System Settings screen. Flush play queue: Press and hold this button for four seconds to flush the entire play queue.
VOLUME ZONE 1, 2, 3 ZONE 1 ZONE 2 ZONE 3	Raises and lowers the volume of the selected zone within the limits set on the Sound Mixer screen.
F1, F2, F3, F4 F1 F2 F3 F4	For future use.
Left-arrow, right-arrow, OK OK	For future use.

Configuring the Bill Acceptors

NOTE	This procedure applies when a second bill acceptor is installed in Virtuo II.

1. On the Operator Interface, open the Hardware Options screen.



From this menu, you can configure Virtuo II to use two bill acceptors or one.
By default, this option is turned **ON**.

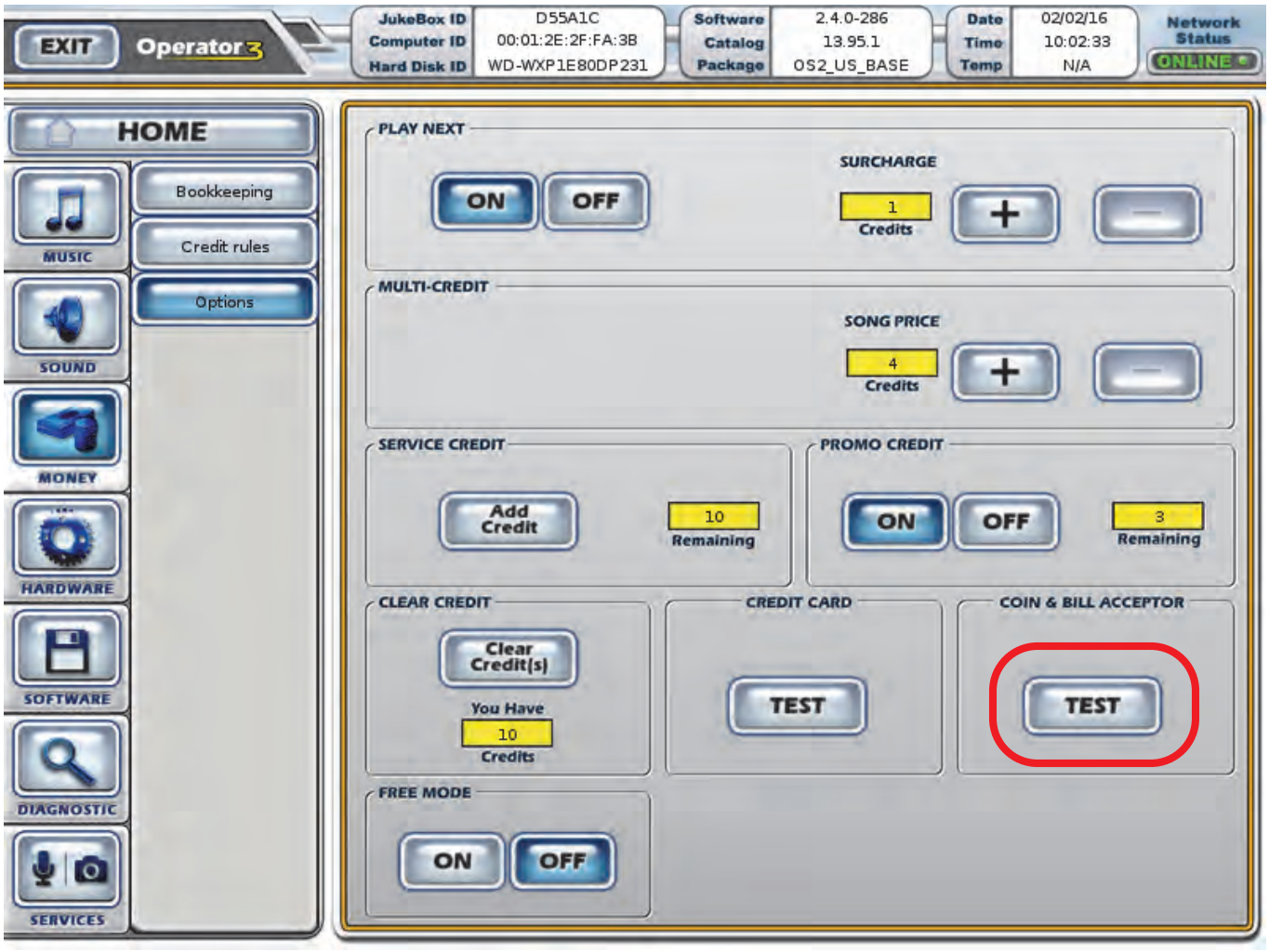
- If Virtuo II has a single bill acceptor, you **must** turn this option **OFF**.
- If Virtuo II has dual bill acceptors, you **must** ensure that this option is turned **ON**.

Testing the Payment Acceptors

You can verify that the bill acceptor(s) and coin acceptor (if any) are functioning properly using the testing controls on the Money | Options screen of the Operator Interface.

To display the Money | Options screen

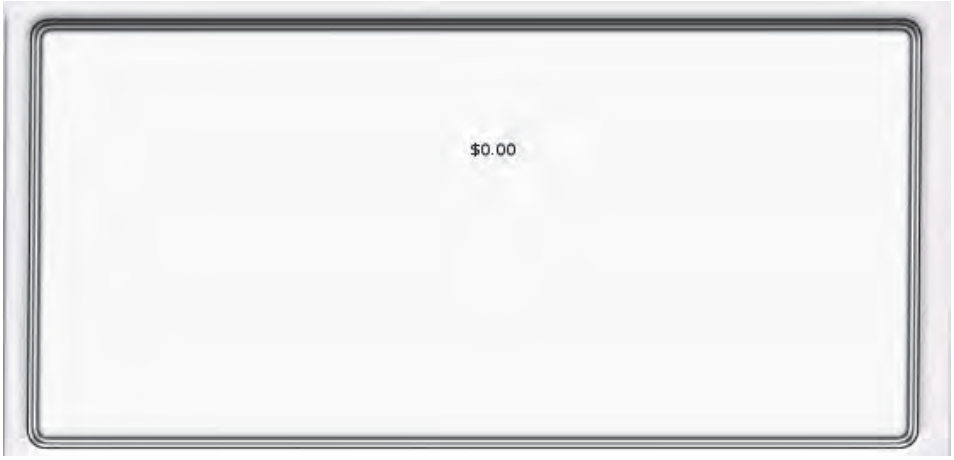
1. Activate the Operator Interface, as described in Activating the Operator Interface.
2. Select the Money menu, and then press the **Options** button.
   The Money | Options screen appears.



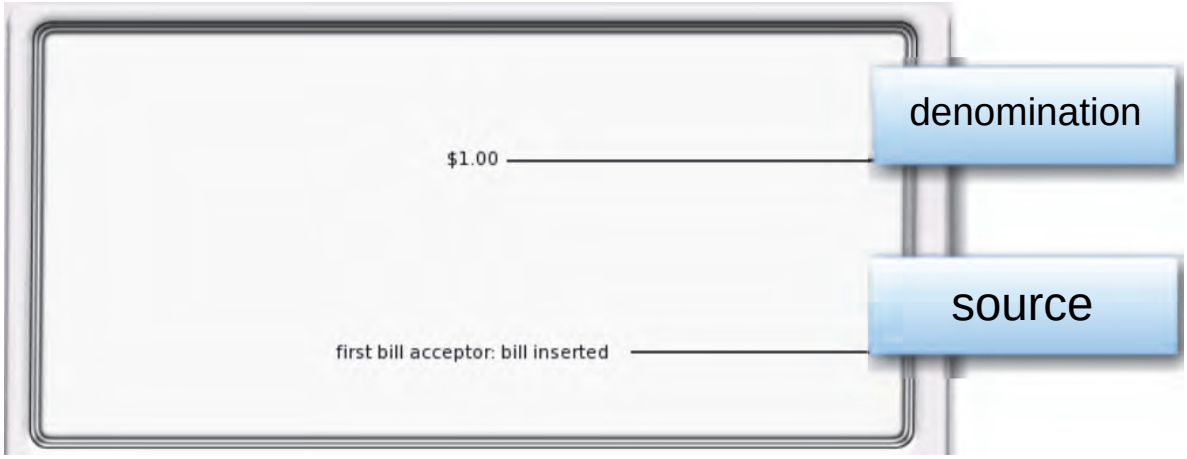
Testing the Bill and Coin Acceptors

To test the bill acceptor

1. In the **COIN & BILL ACCEPTOR** area, press the **TEST** button.
   The test screen appears.



2. Insert a bill into the bill acceptor.
   The screen refreshes, showing the denomination of the bill that was inserted and the origin of the bill (first or second bill acceptor).



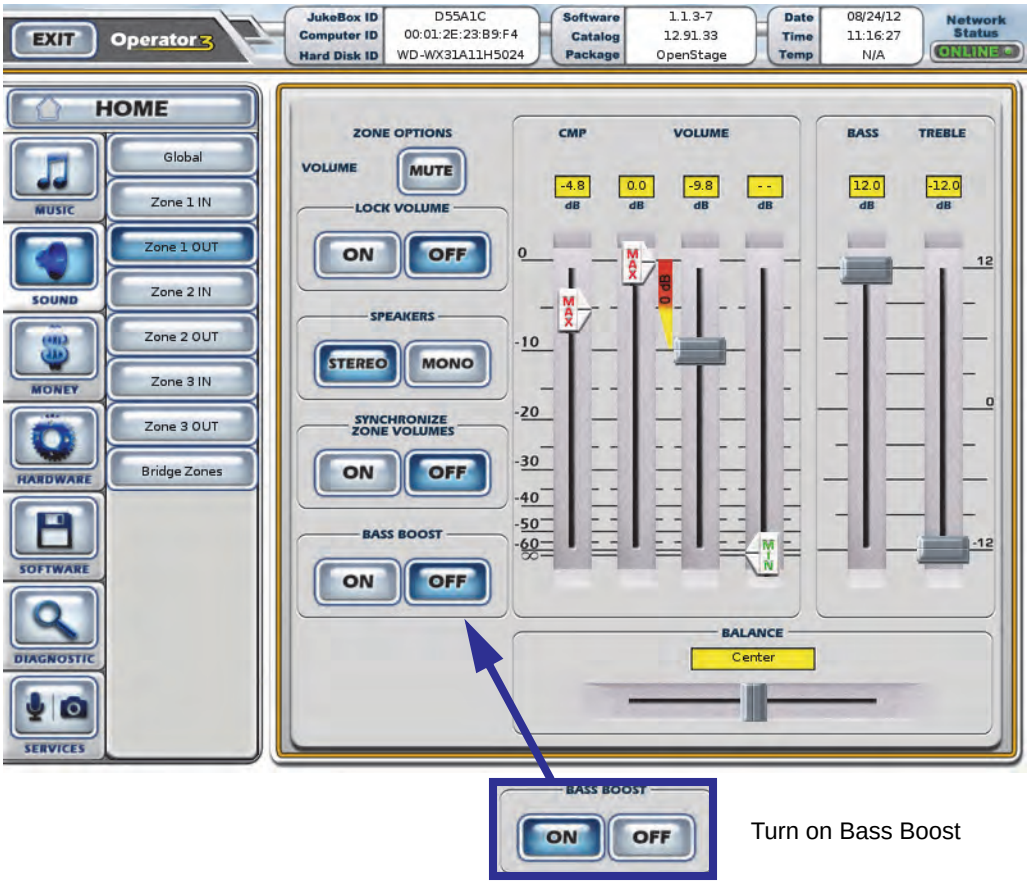
3. This is the default bill acceptor configuration:
   - accepts only $1, $5, $10, and $20 bills
   - four-way bill direction
   - high security bill acceptance
   - long pulse (do not change this setting)
     To change the settings follow the directions on the side of the bill magazine.
4. Make sure that the bill is properly stacked. Instructions for removing the bill are located on the back of the bill acceptor magazine.
5. For the Canadian model only, repeat step 1 and insert a coin into the coin acceptor.
   The screen refreshes, showing the value of the coin inserted.

Enabling Bass Boost

Virtuo II's computer boasts DSP technology for improved audio quality, equalization, and noise reduction. The Bass Boost feature—individually controllable for all 3 audio zones—is, by default turned off in the jukebox software and must be turned on through the Operator interface.

To enable Bass Boost

1. From the main Operator interface, select the **Sound** menu, and then select **Zone 1 Out**.



Turn on Bass Boost

2. In the **Bass Boost** area, select **ON**.
   You can repeat this procedure to turn on Bass Boost for all connected audio zones.

NOTE	If one of your audio zones is connected to an external sound system with hardware equalization, "double equalizing" your audio signal using Bass Boost can yield unsatisfactory results. If your external sound package is the TouchTunes PerforMax Quad sound system, which is equipped with an external EQ, turn Bass Boost off for best results.

Connecting an External Audio Source

Virtuo II can accept input from an external audio device as long as the device has a line level stereo output (from 300mV to 1 V RMS). Most audio devices, such as tape decks, receivers, CD players, or radios have such an output.

CAUTION: The maximum input signal to Virtuo II must be 1 volt RMS. This is the standard for most audio devices. However, connecting variable audio outputs, such as the speaker outputs of an amplifier, can damage Virtuo II.

Virtuo II automatically switches to the external source under two conditions:

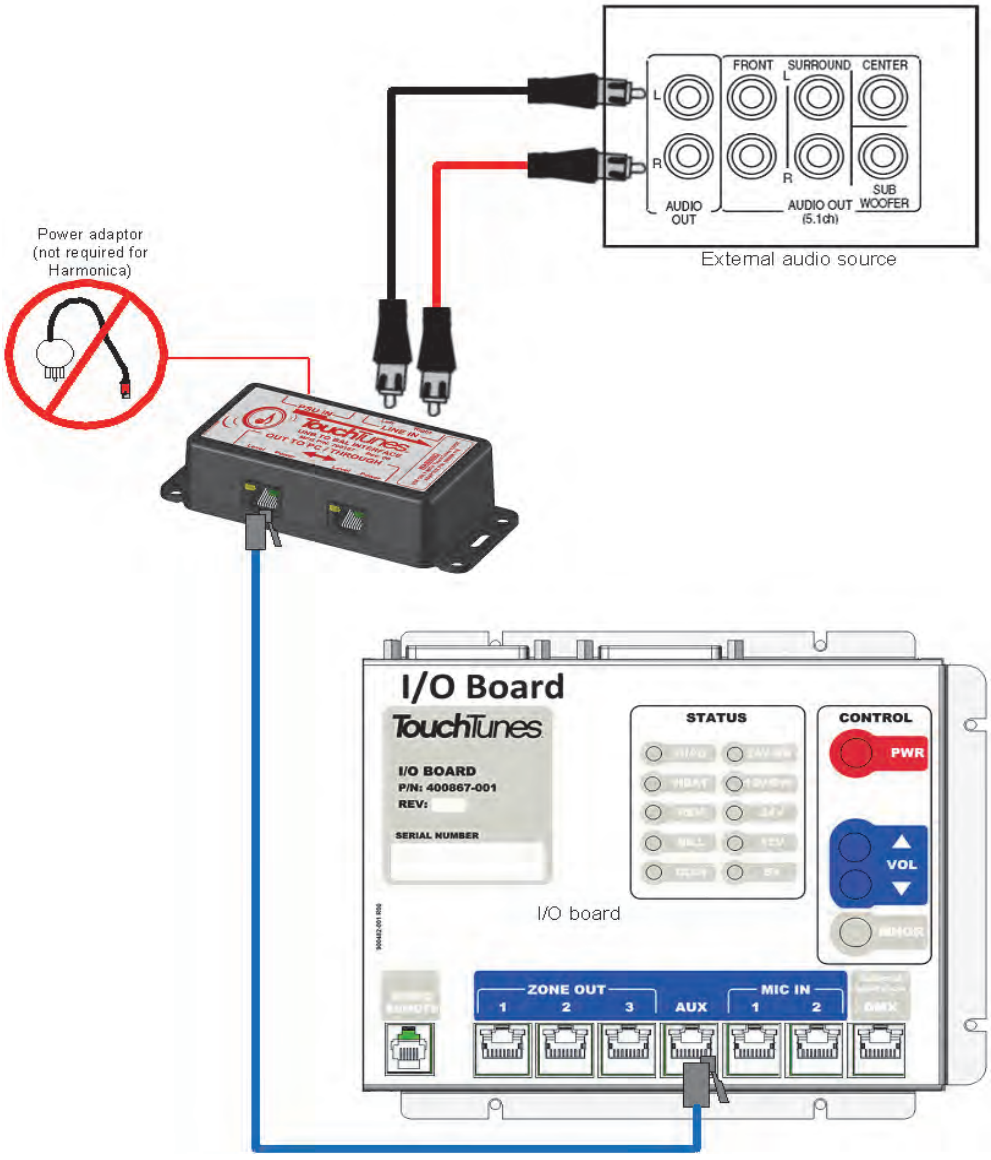
1. When Virtuo II is not in use. That is, no songs are currently playing and Virtuo II is not paused.
2. CMP (Custom Music Programming, also known as non-interactive background music), is not scheduled for the current time.

Requirements for Connecting to an External Audio Source

Cabling	Use standard Cat-5 cable
RCA connectors	Two RCA connectors (male) are required to connect the cable to the DI box. By convention, a red connector is used for the right channel and a white connector is used for the left channel.
Location	Locate the DI box as close as possible to the audio source
Tie-wraps	You need tie-wraps to secure the wire on exit from Virtuo II
Tools	You need tools to install the audio cabling and attach the RCA connectors to it.

To connect an external audio source to Virtuo II

To connect an external audio source to Virtuo II, use a line-input DI box (part no. 700167-001). Refer to this figure when performing this procedure.



1. Connect the RCA connectors from one end of the audio cable to the left and right outputs on the external audio device.
2. Connect the other end of the audio cable to the left and right input RCA jacks on the DI box.
3. Connect one end of a Cat 5 cable to the RJ45 output connector on the DI box.
4. Open either of the cable access ports on the rear of Virtuo II.
5. Route the cable through the cable channel on the rear of the cabinet and then into Virtuo II.
6. Plug the other end of the Cat 5 cable into the port labeled **AUX** on the computer.
7. Close the cable access channel.

8. Activate the Operator menu and adjust the input gain for the auxiliary device.

NOTE	If you hear a humming noise after enabling the external audio device, it can be caused by a ground loop. Ground loops can occur when there is more than one path to the electrical ground. A quick way to solve the problem is to install a ground loop isolator on the audio cable that connects Virtuo II to the external audio device. TouchTunes recommends the Radio Shack Ground Loop Isolator (catalog number 270-054).

Connecting a Microphone

A microphone can be connected to Virtuo II. Virtuo II automatically mutes the song that is currently playing when the talk button on the microphone is activated.

Microphone Requirements

The microphone should be:

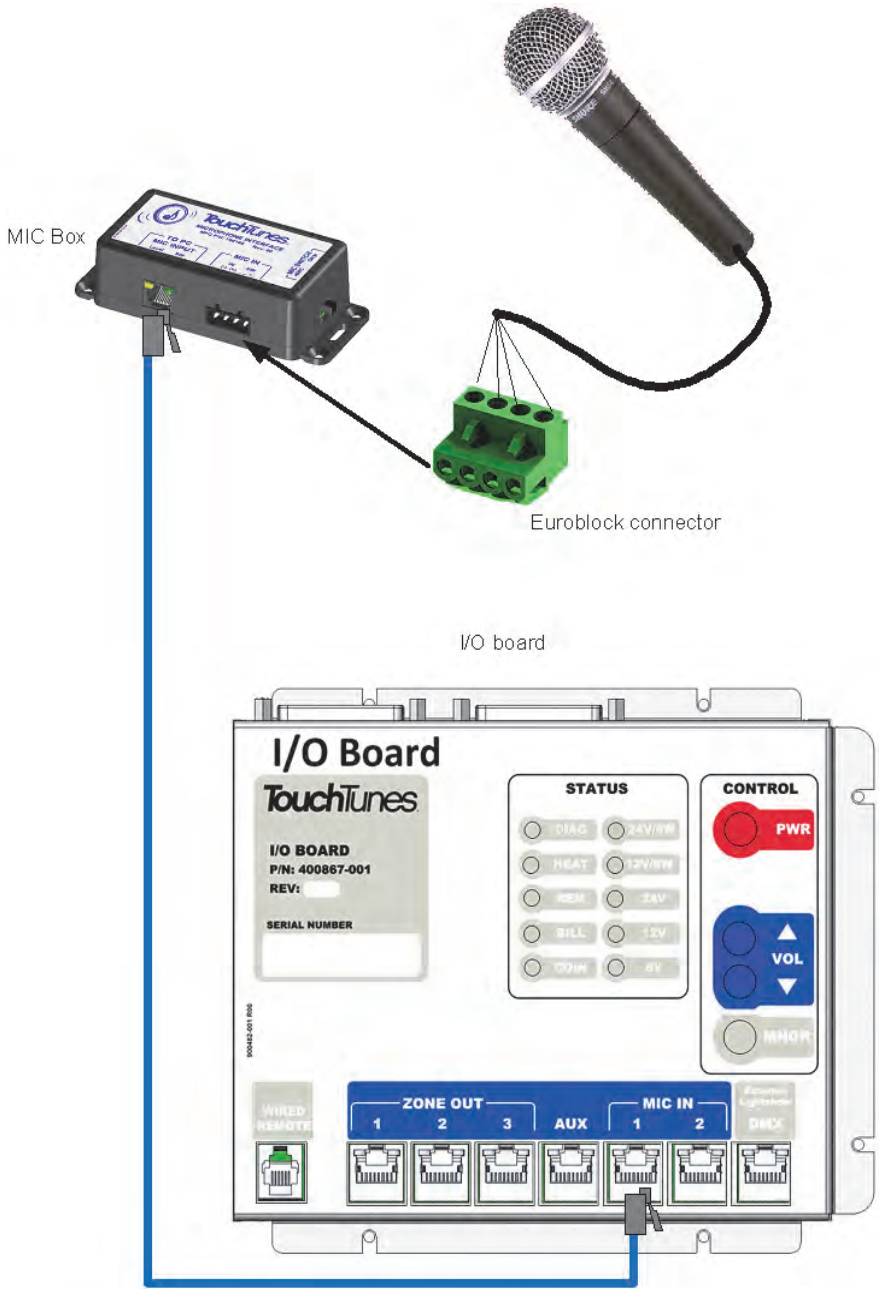
Balanced	Balanced mics allow for longer cable lengths with less noise
Low impedance	To keep noise to a minimum, a mic with impedance less than 600 ohms is preferred. Mics with greater impedance can pick up more noise.
Dry contact (optional)	This sends a signal to Virtuo II indicating that the mic switch has been pressed.

TouchTunes recommends that you use a cardioid dynamic microphone. These microphones are low impedance (150 ohms).

NOTE	Condenser and electret microphones will not work, as no DC (phantom) power is supplied.

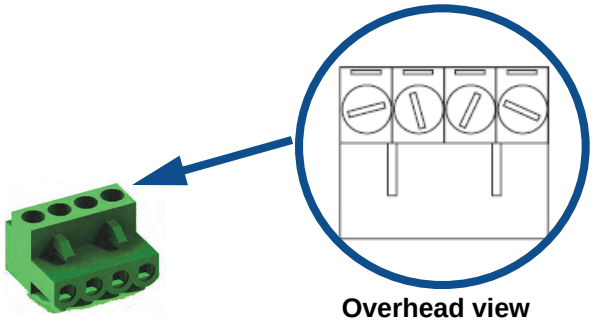
To connect a microphone to Virtuo II

To connect a microphone to Virtuo II, you must use the MIC box (part no. 700166-001) and the 4-pin Euroblock connector (part no. 100000-001) supplied with the microphone kit (sold separately). Refer to the figure below when performing this procedure.



1. Prepare the microphone cable by stripping the ends of the 4 connector wires, exposing approximately 1/4” of wire.
2. Locate the supplied four-slot Euroblock connector for the MIC box.

3. Loosen the screws along the top of the connector using a flat-head screwdriver, if necessary.



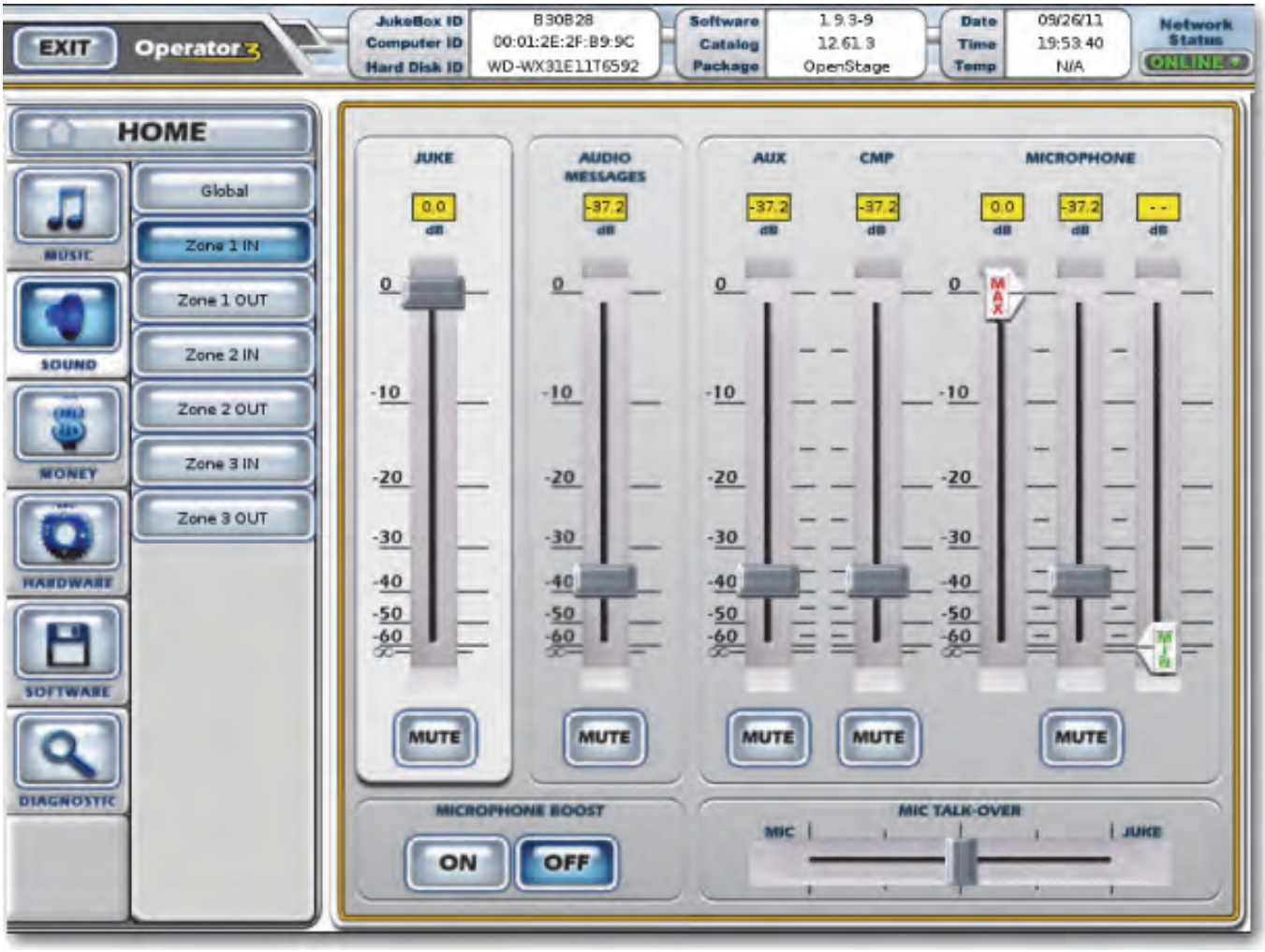
Euroblock terminals

4. Wire the ends of the 4 microphone wires to the Euroblock connector using the legend on the DI box's label as a guide.

Wiring legend

5. Refer to the manufacturer's documentation for the microphone to determine color coding and wiring information.
6. Using a flat-head screwdriver, tighten the screws of the slots for the microphone to secure the speaker cable to the connector.
7. Attach the Euroblock connector to the connector labelled **MIC IN on the MIC box.**
8. Connect one end of a Cat 5 cable to the RJ45 output connector labelled **TO PC MIC INPUT** on the MIC box.
9. Open either of the cable access ports on the rear of Virtuo II.
10. Route the cable through the cable channel on the rear of the cabinet and then into Virtuo II.
11. Plug the other end of the Cat 5 cable into the port labeled **MIC 1** or **MIC 2** on the I/O board.
12. Close the cable access channel.

13. Activate the Operator menu and adjust the input gain for the microphone.



Mixer Input screen

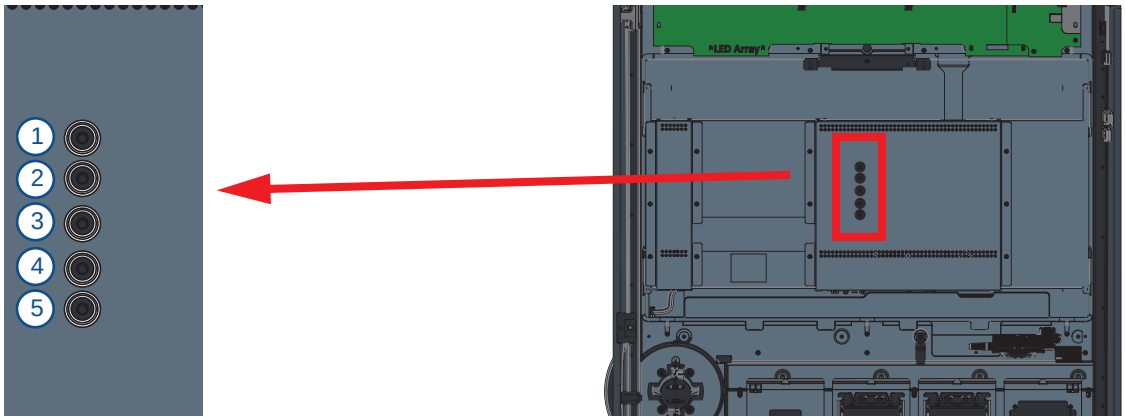
NOTE	The Mixer Input screen includes a **Microphone Boost** button, which is independently controllable for the three audio zone. The default value is **OFF**. Adjust your microphone gain and boost settings as required.

Adjusting Touch Screen Brightness and Contrast

Virtuo II is shipped with touch screen brightness and contrast settings configured to values that TouchTunes has found to be suitable for most installations, and will probably not require adjustment. However, optimum picture quality is affected by the lighting conditions in the venue, so some adjustment may be required to achieve the best results.

Virtuo II's touch screen is equipped with on-screen display (OSD) controls that let you change settings. Located on the back of the monitor are five buttons.

Button	Control	Function
1	ENTER	Select the current choice in the OSD
2	UP	Increases brightness. While viewing OSD: - Selects OSD choice counterclockwise. - Increases the value of OSD adjustment choice
3	POWER	Turns the monitor ON/OFF
4	DOWN	Increases brightness. While viewing OSD: - Selects OSD choice clockwise. - Decreases the value of OSD adjustment choice
5	MENU	Displays/exits the OSD menus.



OSD Control Buttons

To adjust the brightness and contrast

1. Press the Menu button to display the OSD menu.
2. Press the **UP** button or **DOWN** button to toggle and the **ENTER** button to select the OSD sub-menus and functions.
3. When the function you want to change, such as brightness or contrast is shown, press the **ENTER** button.
4. To adjust the value of the function:
   - Press **UP** button to increase the value of an OSD control option.
   - Press the **DOWN** button to decrease the value of an OSD control option.

Re-applying Filters and Credit Rules

NOTE	If you are replacing a TouchTunes jukebox with a Virtuo II, you must manually apply any music filters and credit rules from the old jukebox to the Virtuo II if you want such filters and rules to apply to Virtuo II.

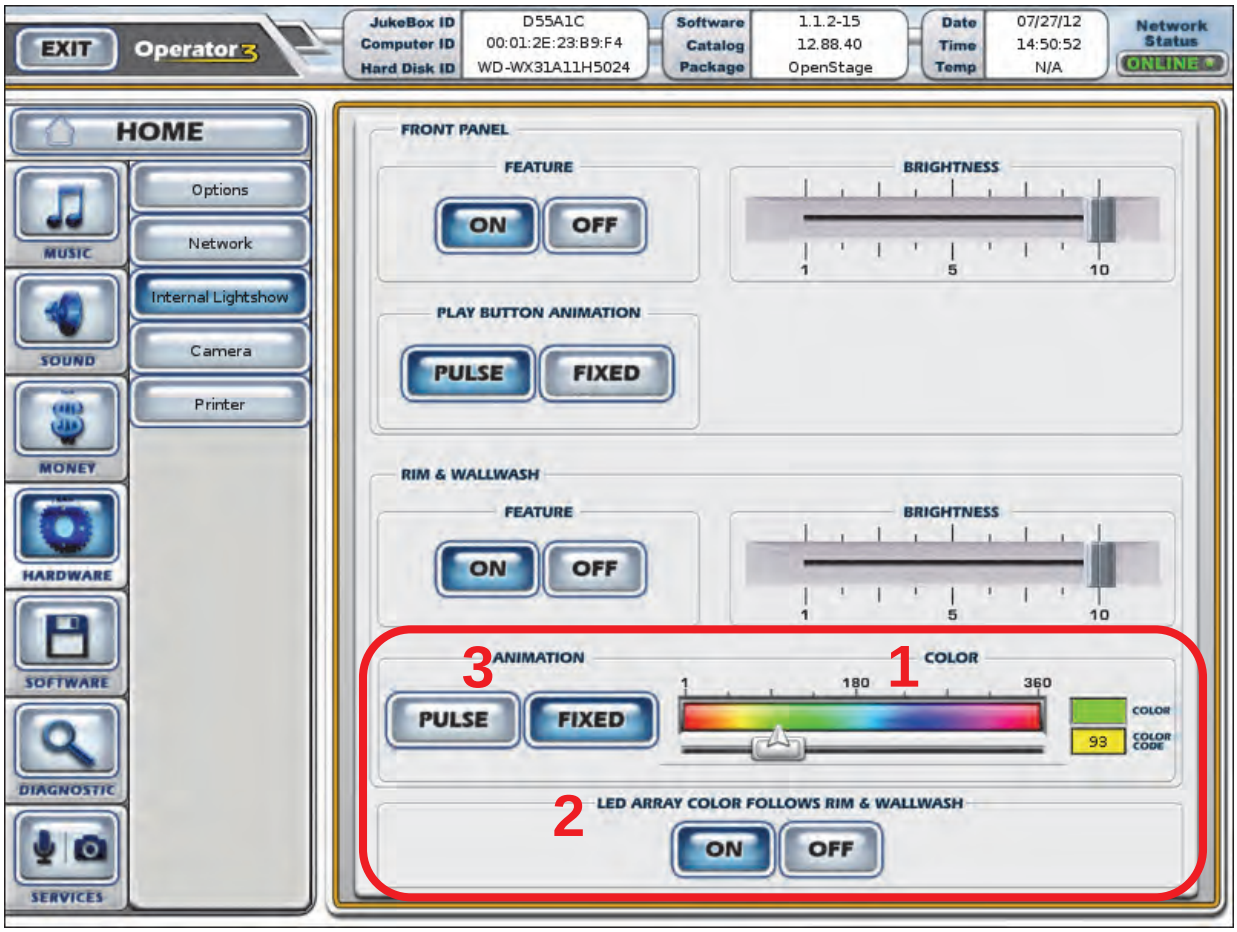
- To configure music filters, select the **Music** Operator menu, and then press the **Filters** button.
- To configure credit rules, select the **Money** Operator menu, and then press the **Credit** rules button. Configure your settings as required.

Setting the Lighting Colors

Virtuo II's Light Rim, Wallwash and LED Array display all light up in the classic TouchTunes blue color, by default. This color can be changed to better match a location's color scheme and lighting (or branding.)

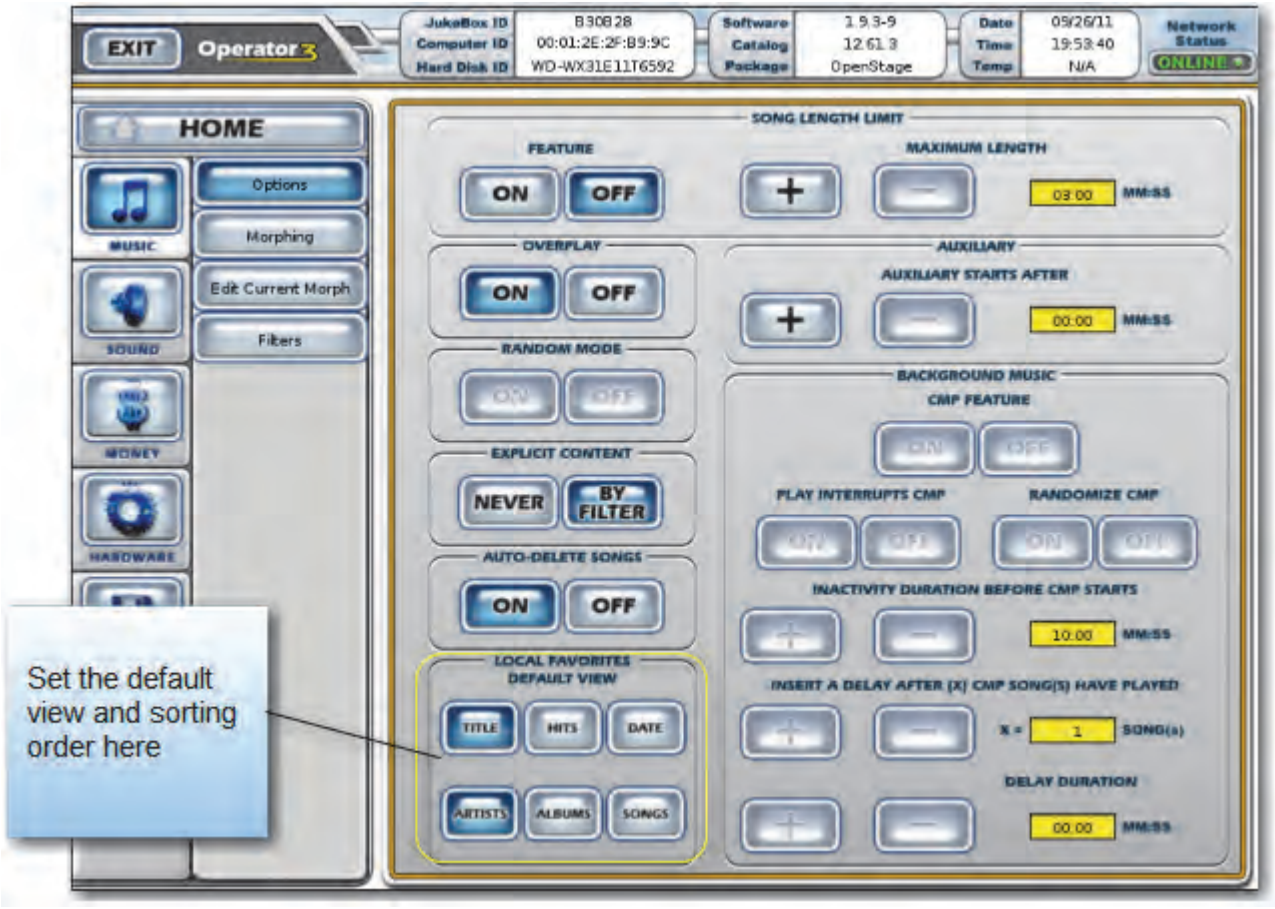
The settings associated with this functionality can be found within the Operator Menu, by navigating to **Hardware | Internal Lightshow**.

Here, you can set the color of the Light Rim and Wallwash (1), toggle whether the LED Array display should use the same color (2), and whether the Light Rim and Wallwash should be animated, or just show fixed lighting (3).



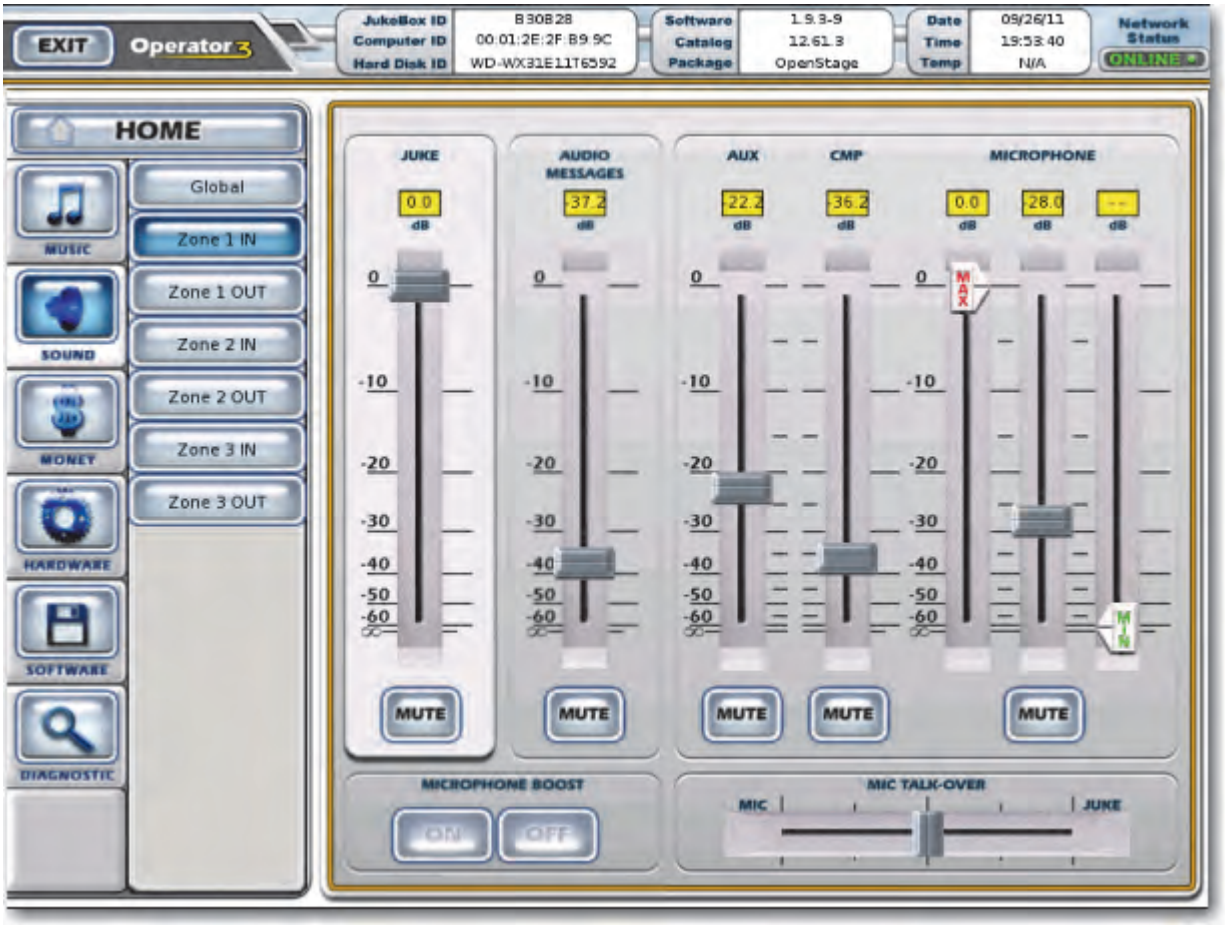
Setting Local Favorites Options

You can change the default view and sorting order of the Favorites from the Operator menu, on the **Music** > **Options** screen.



Setting Custom Music Programming (CMP) Levels

You can adjust the input and output volume levels for Custom Music Programming (CMP), also called non-interactive background music. On the Operator screen touch the Sound menu and adjust the CMP levels for the zones in and out.



Changing Languages

When you activated Virtuo II, you selected a default language, but you can change your language selection any time. To change the language options, on the Operator interface, select a default language from **Software > Languages** and reboot Virtuo II.

NOTE	Language options apply only to the user interface. English is used for the Operator menus.

OpenStage 2 provides full user interface support in English, French and Spanish. Patrons can change the language on the interface during their session. The UI resets to the default language when a new session starts.

Do Not Apply Stickers to the Virtuo II Touch Screen

With its 27-inch HD wide touch screen and LED panel, Virtuo II provides the largest touch-sensitive user interface ever offered by TouchTunes. The touch screen's bezel-less design means that the entire glass is touch-sensitive, not just the user interface area, and must be kept clear of objects that can interfere with user interaction and the proper operation of the jukebox.

Never attach stickers, decals or transfers to the Virtuo II touch screen monitor. Doing so can adversely affect the Virtuo II's behavior.

If you must apply stickers of a promotional nature or with contact information, TouchTunes recommends that you affix them to the left or right side of the enclosure to preserve the esthetics of the Virtuo II facade.

You can professionally display the location and your contact information on the Virtuo II screen by adding it to the Owner profile page and enabling the Owner Profile page to display from Virtuo II's Operator menu under **Software > Location Info**. See Do Not Apply Stickers to the Virtuo II Touch Screen.

TouchTunes

7 Service and Maintenance

This section has information to assist you with the service and maintenance of Virtuo II.

Topics

Important Safety Instructions and Warranty Information
List of Available Virtuo II FRU (Field-Replaceable Unit) Kits
Replacing a Payment Acceptor

Important Safety Instructions and Warranty Information

Before you service or replace parts in the Virtuo II, familiarize yourself with this information.

WARNING: To prevent risk of electrical shock, do not attempt any of these procedures without first shutting down Virtuo II and disconnecting all electrical power to the unit.

IMPORTANT: The major components in Virtuo II contain no user-serviceable parts. **The computer, I/O board, power supply unit, and amplifier have tamper-proof adhesive labels affixed to their exteriors. Do not attempt to open these components! By doing so, you risk voiding your warranty.**

About the Virtuo II Maintenance Guide

TouchTunes provides many FRU (Field Replaceable Unit) kits for repairing or replacing damaged components of the Virtuo II jukebox. Each FRU kit comes with its own guide that shows how to perform the repair or replacement.

In the next section, you will find a list of all the available FRUs you can order, and the associated document that shows you how to perform the procedure. All the listed documents are also available for download in the Documentation section of the Operator Dashboard, making it possible to consult them before purchasing a FRU.

If you need to order one or more FRU kits, please contact your TouchTunes Sales representative.

List of Available Virtuo II FRU (Field-Replaceable Unit) Kits

Below you'll find a list of all the kits that can be purchased to replace Virtuo II components, should they need servicing, along with the associated documents that show how to perform the replacements.

FRU Kit P/N	FRU Kit Name	Document P/N
600207-50x	Hard Drive and Tray Assembly	N/A
600118-001	Brandbar PCBAs and Plastic	900521-001
600119-001	Various Cables, including Squids	900535-001
600122-001	Door Lock Assembly (All Parts)	900537-001
600123-001	Front Rim PCBAs (8)	N/A
600125-001	Wall Wash Lenses (2)	900783-001
600126-001	Wall Wash PCBAs (6)	N/A
600127-001	Camera Assembly (All Parts)	900523-001
600130-001	Play Button Assembly	900538-001
600247-001	Power Bar Assembly	900967-001
600132-001	US Payment Assembly (no Bill Acceptors)	900634-001
600174-001	Computer Assembly	900721-001
600135-001	I/O Board Assembly	900515-001
600183-00x	LED Array Assembly and Controller	900524-001
600137-002	Power Supply Assembly	900525-001
600138-001	Amplifier Assembly	900526-001
600139-001	Front Rim Plastic	N/A
600141-003	Touchscreen Assembly	900516-001

All the documents listed in this table are available for download on the TouchTunes Product & Warranty page, at http://productwarranty.touchtunes.com. You can find individual documents easily by searching for their part numbers, or by using relevant keywords.

Replacing a Payment Acceptor

If a payment acceptor needs replacing, the following section provides the steps to follow.

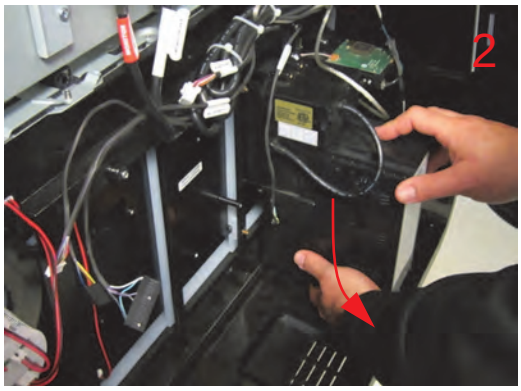
- Replacing a Bill Acceptor

Replacing a Bill Acceptor

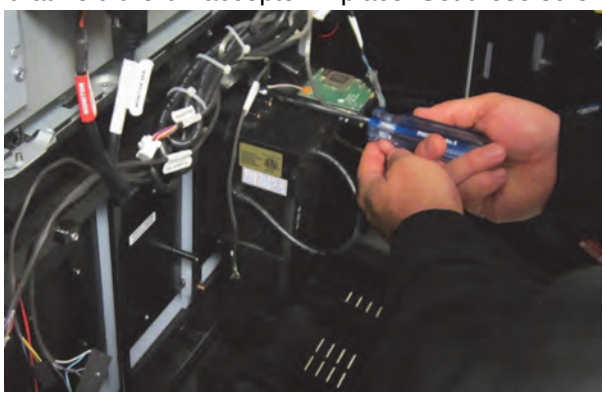
Note: This section assumes that you're replacing an existing bill acceptor with a new one. If the Virtuo II currently includes only one bill acceptor, with a front payment plate that doesn't offer an opening for a second bill acceptor, you should contact TouchTunes in order to order the Virtuo II Accessories Kit, which includes a replacement payment plate.

To replace a bill acceptor:

1. Power down Virtuo II and disconnect all AC power, as described in Important Safety Instructions and Warranty Information.
2. Remove the bill stacker from the bill acceptor.

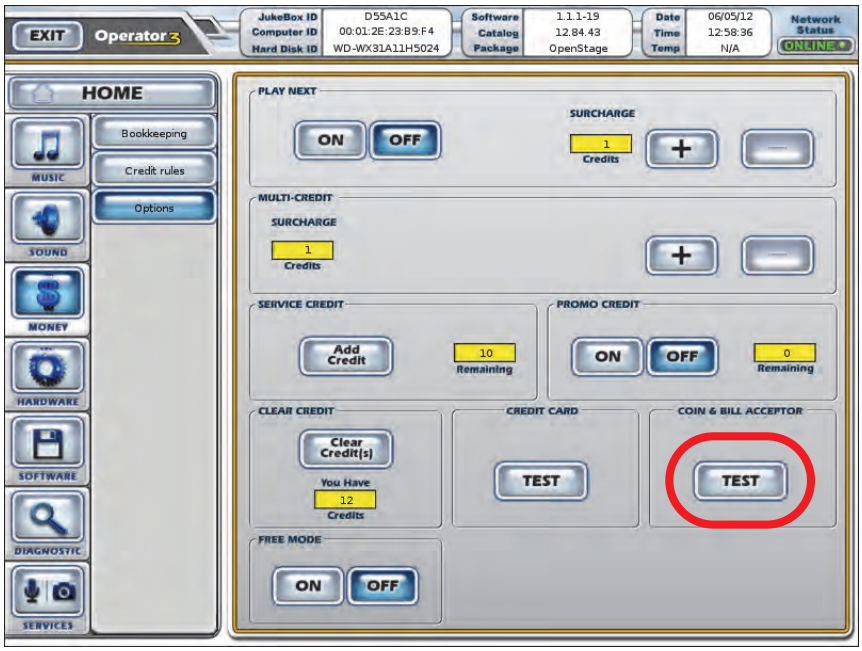


3. Disconnect the cable from the side of the bill acceptor.
4. Remove the four screws that hold the bill acceptor in place. Set those screws aside.



5. Carefully pull the bill acceptor out of its opening.
6. Slide your replacement bill acceptor into the opening.
7. Using the screws you just set aside, fasten the bill acceptor in place.
8. Connect the cable you disconnected in step 3 to the side of the replacement bill acceptor.
9. Slide the bill stacker back onto the replacement bill acceptor.
10. Power and boot up the Virtuo II.

11. Once the Virtuo II has fully booted, go into the Operator screen, under Money > Options, and test the bill acceptor there.



12. Complete your tests on the bill acceptor to make sure it functions properly.
13. Close the Virtuo II's door, and lock it.

TouchTunes

8 Bridging Virtuo II's Internal Amplifier

About Amplifier Bridging

Amplifier bridging enables Virtuo II's internal amplifier to produce up to 475W per channel for a maximum of 950W.

Topics

About Amplifier Bridging

Bridged Amplifier Configuration

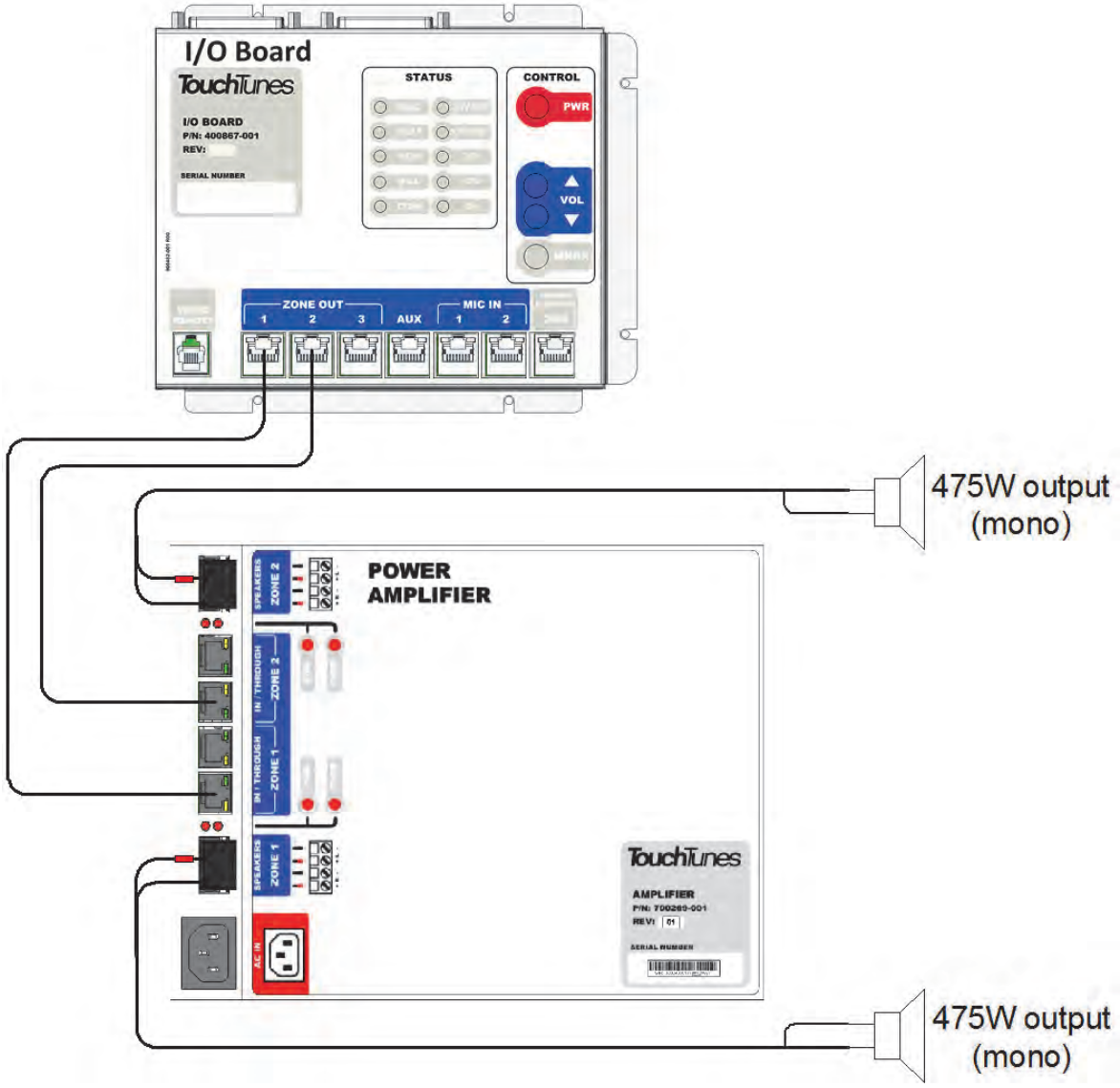
How to Bridge the Amplifier

Bridging Safety Considerations and Recommendations

Troubleshooting Amplifier Bridging

Bridged Amplifier Configuration

The following is a schematic of the wiring configuration required when bridging both Zone 1 and Zone 2:



This configuration results in the following:

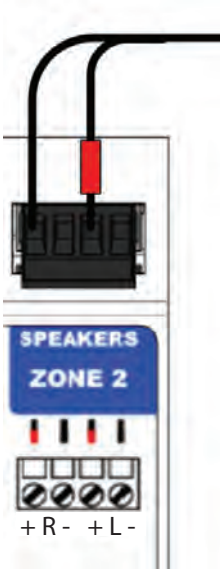
- Output is forced to mono
- The outputs of Zones 1 and 2 can continue to be controlled individually
- The output to the speakers is 475W per channel, at 4Ω

You may choose to bridge only one zone, in which case the other zone will not be affected, and does not need to be rewired.

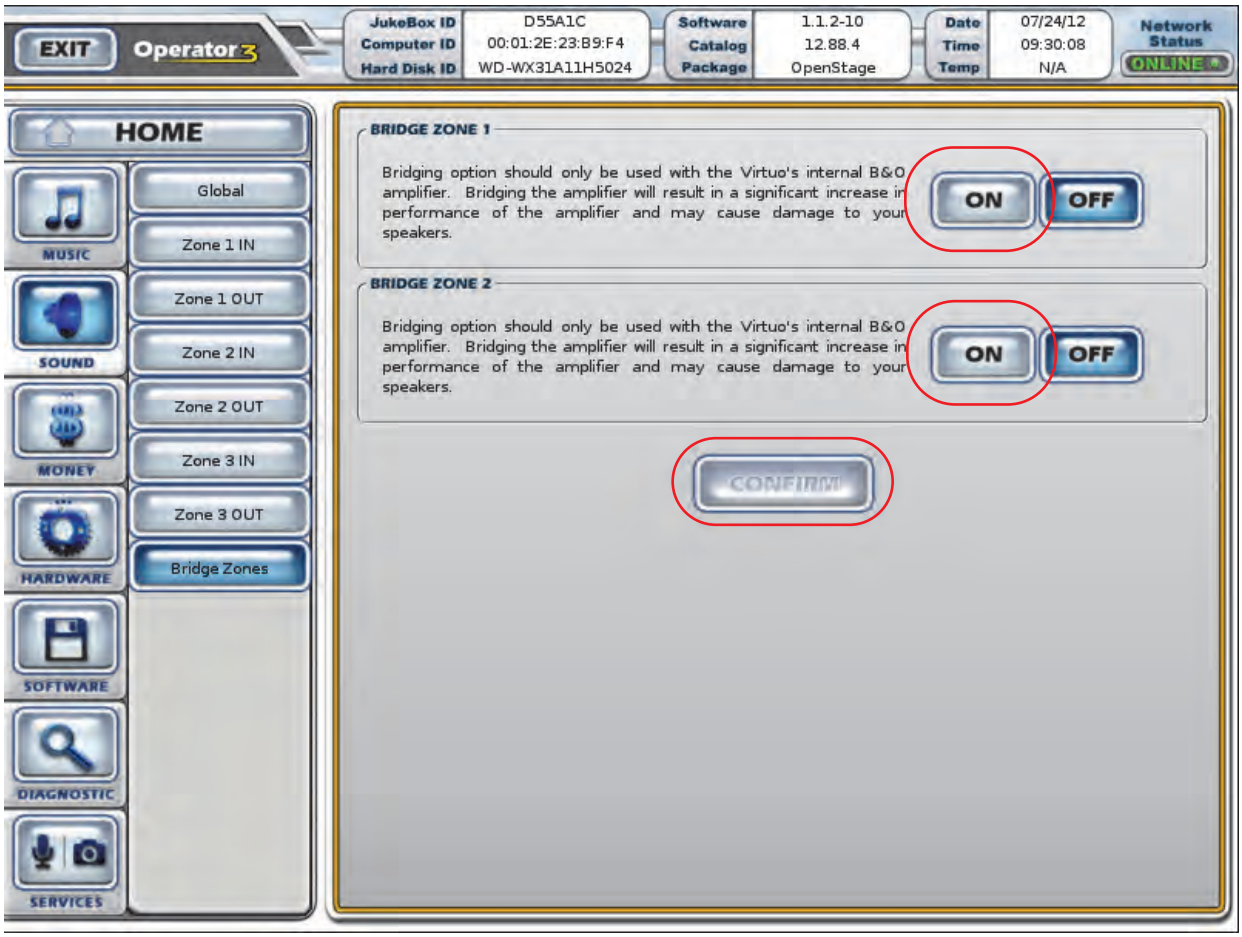
Warning: If you elect not to bridge a zone, you must not enable bridging for that zone in the OpenStage 2 software. Turning the bridge feature on for a zone without rewiring it will cause a degradation of audio quality, and could also damage the speakers. For the same reasons, if you rewire a zone, you must also enable bridging for that zone in OpenStage.

How to Bridge the Amplifier

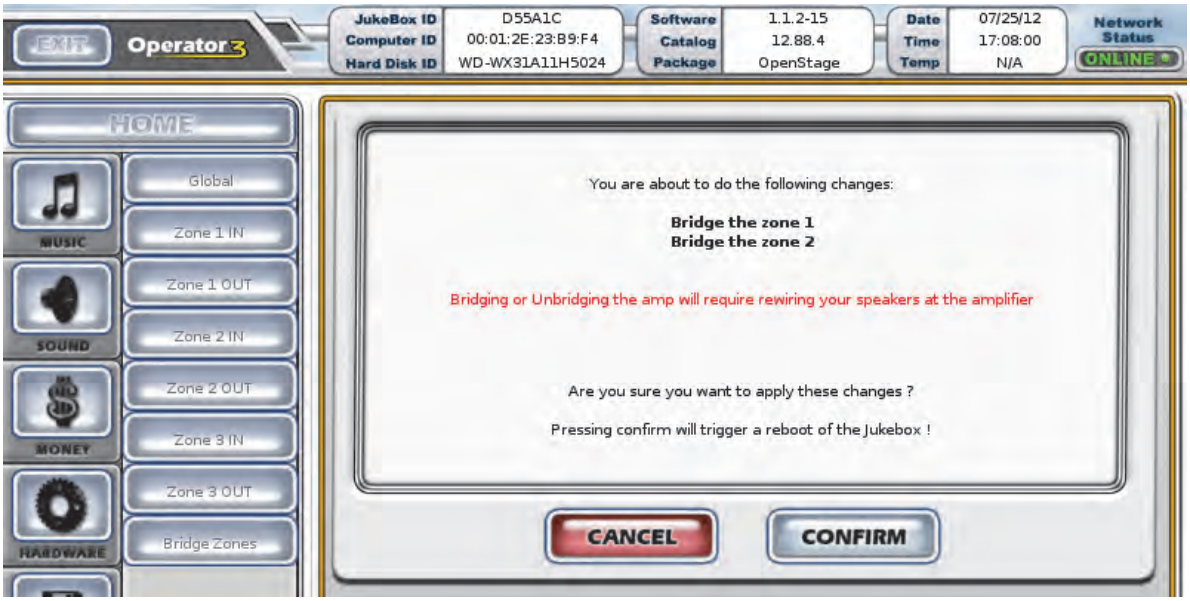
1. Pause Virtuo II.
2. Unlock and open Virtuo II's front door.
3. Disconnect the euroblock connectors from the Zone(s) you will be bridging.
4. Rewire the speaker cables going into the disconnected euroblock connectors as follows:
   - One negative wire (usually black) into Right Positive (R+)
   - One positive wire (usually has a red jacket) into Left Positive (L+)
   - The other two terminals on the euroblock are left empty
   - When bridging both Zone 1 and Zone 2, it is very important to wire both zones identically; not doing so can negatively affect audio quality, as the two zones would be out of phase



5. Re-connect the euroblock connectors into the appropriate zones on the amplifier.
6. On the jukebox, launch the Operator Menu.
7. Navigate to Sound | Zone X Out (where X is each zone you are bridging) and change the following settings as required:
   - Set Balance to the middle
   - Set Bass Boost to Off
   - Set the volume to its lowest setting
8. Next, go to Sound | Bridge Zones.

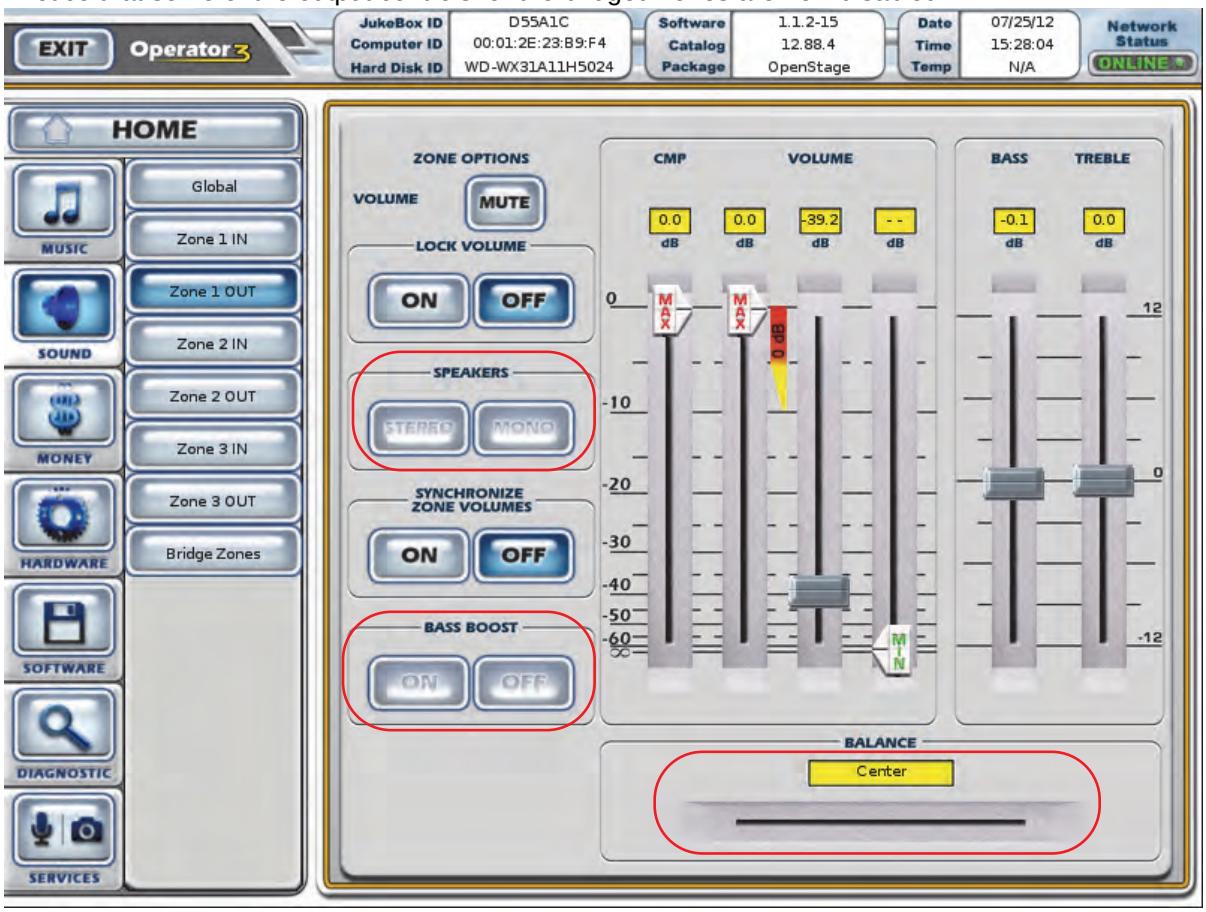


9. Turn on bridging ONLY for the zone(s) you rewired.
10. Tap the "Confirm" button to apply the change.
11. You will be prompted to confirm again, as toggling the bridging function requires a reboot:



12. At this point, Virtuo II will reboot to enable bridging. Take this time to review your wiring.
13. Once Virtuo II has rebooted, if CMP was already active on that jukebox, music should now be playing through the rewired speakers.
14. Queue up a few songs to help you adjust the volume levels.
15. Adjust the volume levels for the bridged zones.

You will notice that some of the output controls for the bridged zones are now disabled:



Bridging forces a Zone to mono, so the mono/stereo and balance controls are now disabled. The bass boost control is also disabled, since the amplifier is now outputting significantly more power than previously.

Bridging Safety Considerations and Recommendations

Before connecting them to the bridged amplifier, make sure the speakers are rated for at least 475W at 4Ω. Using speakers that are not appropriately rated could damage the speakers.

Bridging should only be used with Virtuo II's internal amplifier. Attempting this with any other amplifier (including the ones offered by TouchTunes for other jukebox models or in the Virtuo Floor Stand) could cause degraded audio quality, and damage to the amplifier or the speakers.

While Bridged Mode is on, the "Through" connectors on the amplifier should not be used.

Troubleshooting Amplifier Bridging

Below are solutions to issues you may face after rewiring the speakers and activating amplifier bridging:

Problem	Probable Causes	Solution
No sound at all	• Certain connections were not made properly, preventing audio from being transmitted • Virtuo II's internal amplifier has gone into protection mode, due to an electrical problem (short-circuit, overload, etc.) • Virtuo II is paused, or volume is too low	• Review all connections, following the schematic on page 2 of this document. • Review all wiring, then lower the output volume to its lowest setting, then slide it up slowly until you hear music again. • Make sure Virtuo II is not paused, then raise the output volume slowly.
Degraded sound quality (no bass, distortion, abnormal artifacts)	• The speakers wired to zones 1 and 2 were not wired identically, and are out of phase • The speakers are not rated for 475W at 4Ω. • Balance was not set to the middle before bridging was activated.	• Review the wiring between the amplifier and the speakers. Make sure all speakers are wired the same (see step 4 on page 3 of this document.) • If each zone outputs to a single speaker, check that the speaker is rated no lower than 4Ω. If outputting to multiple speakers, check that the ohms load on the circuit including all the speakers on a zone is no lower than 4Ω. • Bring the volume down to its lowest level then deactivate bridging. After the reboot, set balance to the middle, then reactivate bridging. After the second reboot, raise the volume again to verify that the sound is OK.
Volume too low, despite volume setting being at or close to maximum	• Speakers have impedance much higher than 4Ω. • Problems with wiring (wires are not fully connected)	• Use different speakers or reconfigure speaker groupings (in the case where multiple speakers are connected to one zone output on the amplifier.) • Disconnect, then re-connect each speaker wire in turn, making sure each wire makes a positive connection.

TouchTunes

9 Connection Diagrams

This section contains a block wiring diagram that shows the connections between Virtuo II components, as well as those between Virtuo II and other external components such as audio amplifiers.

You can refer to this diagram while setting up the Virtuo II in a location, or as a post-installation check to ensure that all the components are connected correctly.

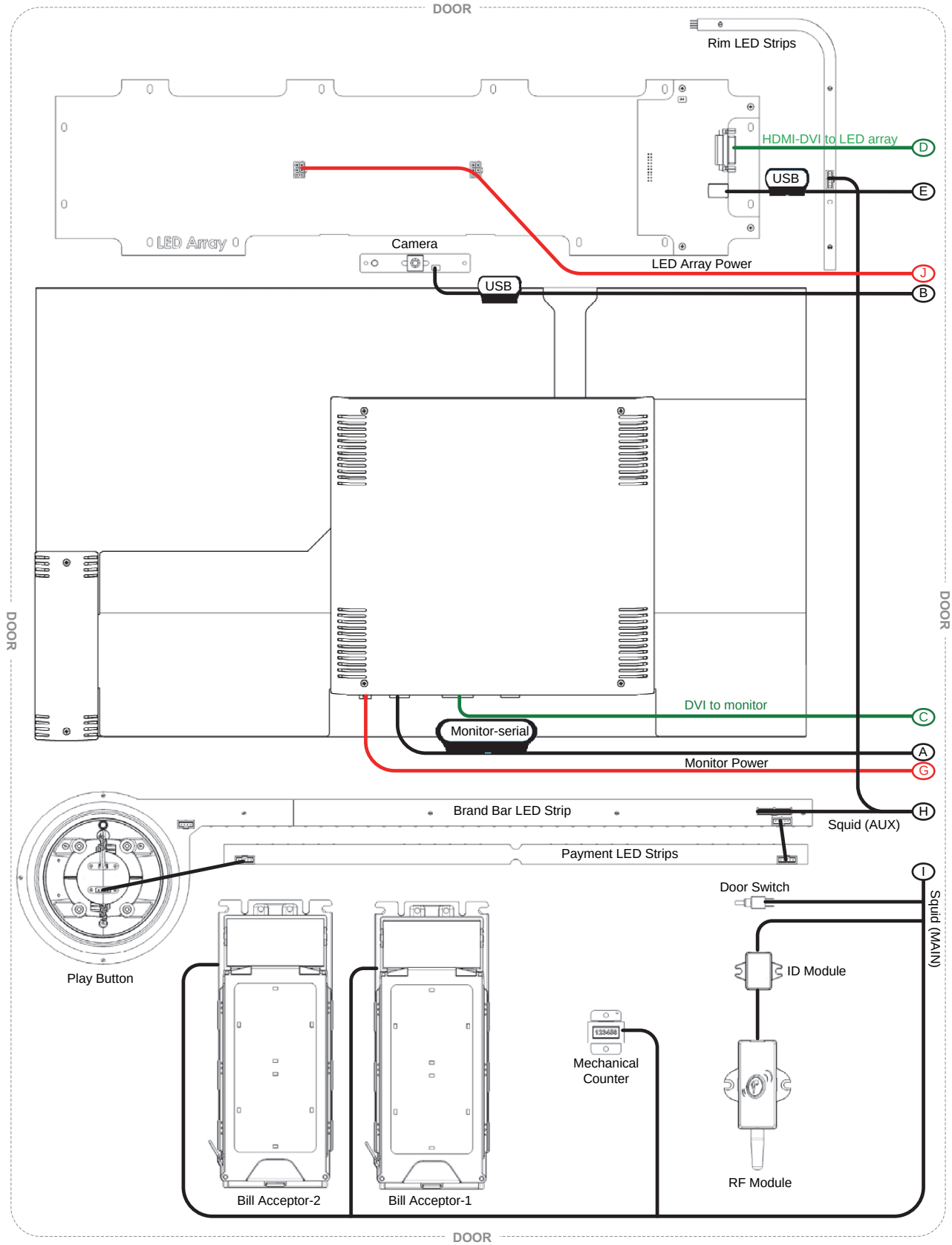
For optimum performance and load balancing, make sure you follow the USB Connection Requirements.

The components below are sold separately

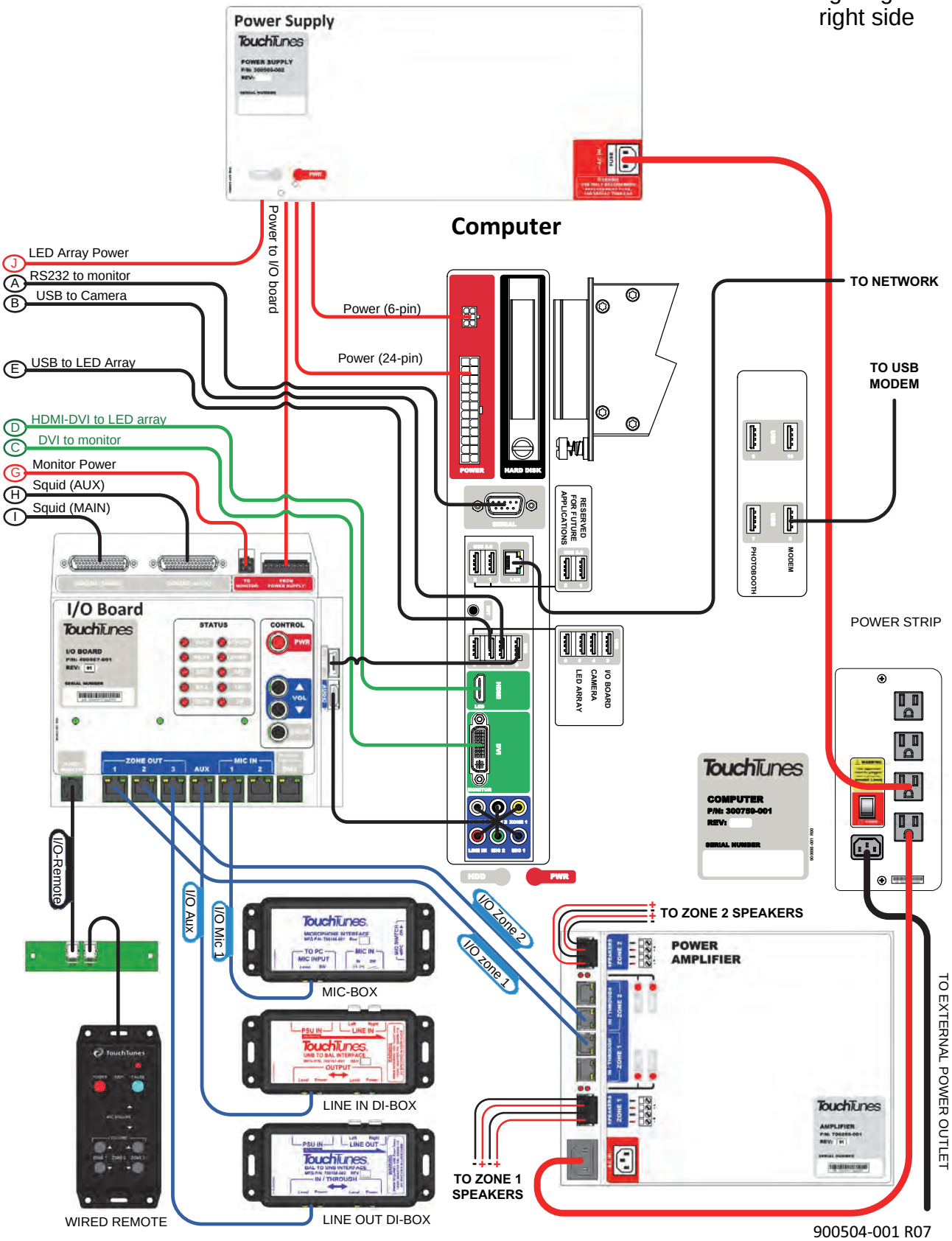
Part number	Component
700269-001	amplifier
700038-00x	wired remote
700167-001	line in
700166-001	microphone box
400332-001	bill acceptor

NOTE	The connection diagram is provided for instructive purposes only, and is not drawn to scale. For enhanced clarity and detail, it is split across two pages.

Virtuo II wiring diagram left side

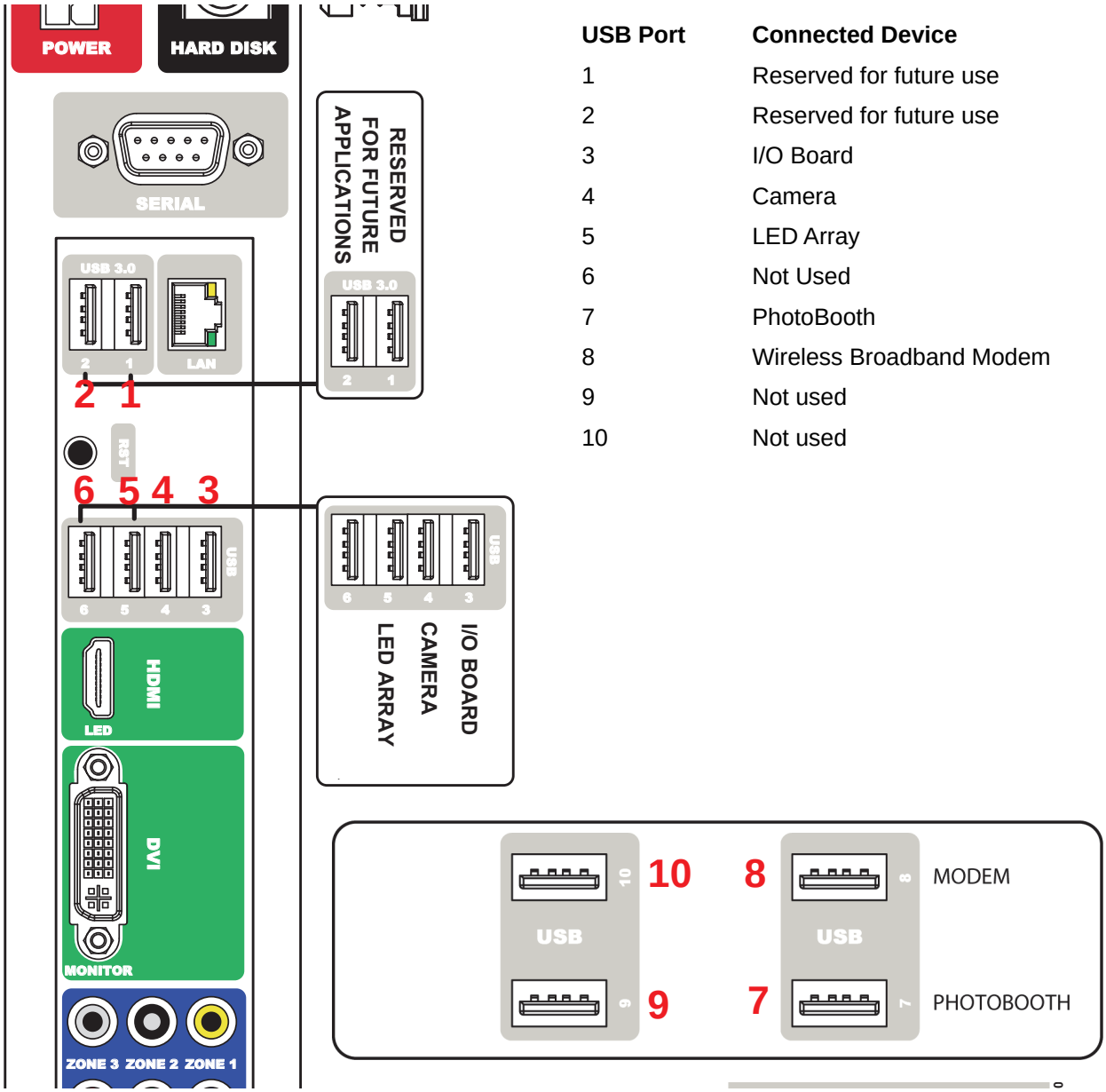


Virtuo II wiring diagram right side



USB Connection Requirements

To ensure optimum performance and load balancing, make sure your USB devices are connected according to the wiring diagram, especially these devices:



USB Port	Connected Device
1	Reserved for future use
2	Reserved for future use
3	I/O Board
4	Camera
5	LED Array
6	Not Used
7	PhotoBooth
8	Wireless Broadband Modem
9	Not used
10	Not used

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